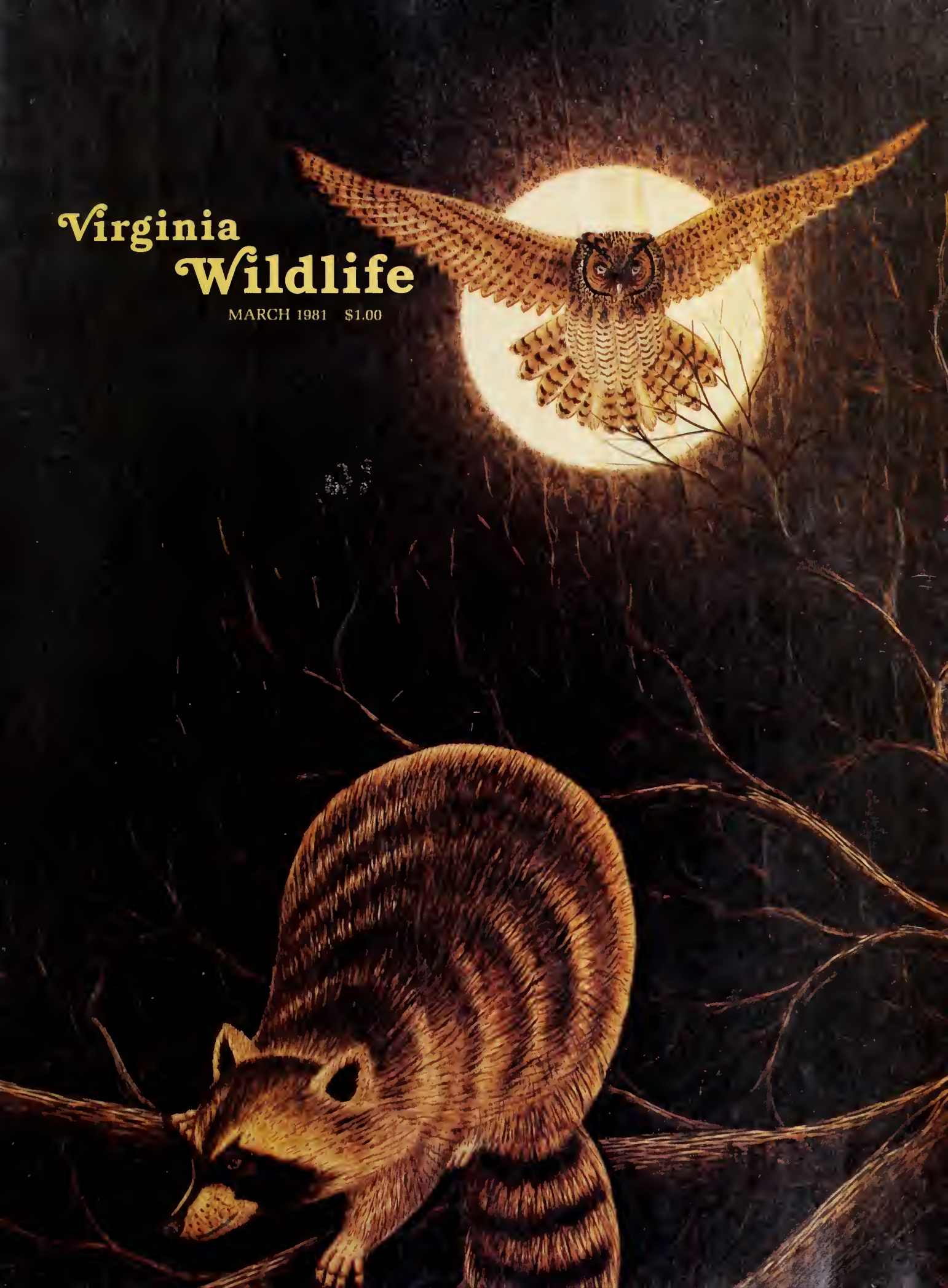
Virginia Wildlife

MARCH 1981 $1.00



Dedicated to the Conservation of Virginia's Wildlife and Related Natural Resources

VIRGINIA WILDLIFE (ISSN 0042 6792)
MARCH 1981, Volume XLII, No. 3

COMMONWEALTH OF VIRGINIA
JOHN N. DALTON, GOVERNOR

Commission of Game and Inland Fisheries

COMMISSIONERS

Frank F. Everest, Jr., Chairman, *Alexandria;* Richard E. Watkins, Vice-Chairman, *Richmond;* J.D. Bowie, *Bristol;* Dolph Hays, *Arlington;* Allan A. Hoffman, M.D., *Danville;* James R. Knight, Jr., D.D.S., *Warsaw;* Walter J. Leveridge, *Virginia Beach;* George L. Sheppard, Jr., M.D., *Winchester;* Richard T. Spain, *Waverly;* Ralph L. Weaver, *Waynesboro.*

ADMINISTRATIVE OFFICERS

James F. McInteer, Jr., *Executive Director;* Richard H. Cross, *Assistant Director;* John P. Randolph, *Deputy Assistant Director;* James Engle, *Deputy Assistant Director;* Jack W. Raybourne, *Chief, Game Division;* Harry L. Gillam, *Chief, Education Division;* Jack M. Hoffman, *Chief, Fish Division;* John H. McLaughlin, *Chief, Law Enforcement Division;* Larry Hart, *Chief, Lands and Engineering Division;* Sam J. Putt, *Chief, Administrative Services.*

Virginia Wildlife is published monthly in Richmond, Virginia by the Commission of Game and Inland Fisheries, 4010 W. Broad St. All magazine subscriptions, changes of address and inquiries should be sent to P.O. Box 11104, Richmond, Va. 23230. The editorial office gratefully receives for publication news items, articles, photographs and sketches of good quality which deal with Virginia's soil, water, forests and wildlife. The Commission asumes no responsibility for unsolicited manuscripts and illustrative material. Credit is given on material published. Permission to reprint text material is granted provided credit is given the Virginia Commission of Game and Inland Fisheries and *Virginia Wildlife*, but clearance should also be obtained from contributing free-lance writers, artists and photographers to reproduce their work.

SUBSCRIPTIONS: One year, $5, three years, $12.50. Make check or money order payable to *Treasurer of Virginia* and send to: *Virginia Wildlife*, P.O Box 11104, Richmond, Virginia, 23230.

Observations, conclusions and opinions expressed in *Virginia Wildlife* are those of the authors and do not necessarily reflect those of the members or staff of the Commission of Game and Inland Fisheries.

Special Second Class Postage paid in Richmond, Virginia.

Features

4 THE SHADBUSH, by Dan M. Russell
When the serviceberry blooms, it's time to bring out your fishing gear and put away the winter clothes

6 PETS OR PESTS? by Robert G. Cobb
Pigeons are one of our most familiar birds — perhaps too familiar

8 GEM OF THE SHENANDOAH, by Rich Hardy
The colorful redbreast has a reputation as a delicious panfish, but it's an admirable fighter, as well

10 ETCHED IN FIRE
Two pages featuring the wildlife woodburnings of our cover artist, Bert Peters

14 1981 TROUT STOCKING PLAN

16 COMMON BIRDS: A CLOSER LOOK, by Jessie S. Grigg
Nest building patterns, songs, feeding habits, and more

18 SPRING THAW: MARCH'S SOGGY RESCUE, by Pat Cooley
A photo essay

20 FRIENDLY FIRE, by Paul H. Bratton, Jr.
Wildlife and forestry officials are realizing the potential of controlled fire as a management tool

22 THE EASTERN SHORE ALGONQUIANS, by Emily VanKesteren
Vestiges of their past

25 WOODSMAN, SPARE THAT DEN TREE, by Edward Wold
The joys of managing rural property for wildlife

28 POINT OF HONOR, by Charles D. Bays
When two or more dogs are hunted together, backing is an essential skill

33 IN NATURE'S GARDEN, by Elizabeth Murray
Strawberries

34 BIRD OF THE MONTH, by Carl "Spike" Knuth
The Song Sparrow

Departments

3 Letters/Editorial

24 It Appears to Me

30 Outdoor Notebook

32 On the Waterfront

Staff

HARRY L. GILLAM, *Editor*
MEL WHITE, *Associate Editor*
SARAH R. BARTENSTEIN, *Assistant Editor*
ROBIN SHARPE SCHROEDER, *Art Director*
CARL "SPIKE" KNUTH, *Artist and Photographer*
F. N. SATTERLEE and J. N. KERRICK, *Staff Writers*
JO ANN T. AGEE, *Photo-type Composition*

COVER: Great horned owl and raccoon, woodburning by Bert Peters of Pamplin, Virginia. See more of Mr. Peters' work on page 10 of this issue.

Letters

UNFAIR SEASON?

High commendations are in order for the excellent article "Black Powder Buck" by Juanita Colvin (November 1980); however, why has the Commission established such an unfair season for muzzleloader hunters this year? Can we expect better treatment in the future?

Harold Blodgett
Annandale

The muzzleloading season was initiated on an experimental basis in Virginia at the request of a number of primitive weapons enthusiasts who expressed a desire to hunt as their ancestors did at a time when forests were not crowded: the aesthetics of the uncrowded forests were valued far more than the gathering of venison.

Naturally, we understand that the muzzleloader would like to hunt in a forest that has not previously been hunted for deer that year. Likewise, the rifle hunter would like the same experience. Since the muzzleloader can use his weapons in all rifle counties during the regular season, but the rifle hunter cannot hunt with his conventional weapon during the special muzzleloading season, the present system permits both groups to enjoy at least the opening day when the deer have been subjected to no legal gun hunting before the regular season.

In order to provide the muzzleloader the opportunity to hunt in an uncrowded forest, the season was doubled in length, and the entire area west of the Blue Ridge was opened to this hunter. This season follows the general deer season. As a result, Virginia has one of the earliest, and by far the longest muzzleloading season in the East.—Assistant Editor

A CHRISTMAS GIFT

I have thoroughly appreciated the back covers of your December and January issues. In fact, your December issue was a special favorite of a favorite publication. From the front cover to a dog lover's story by Clancy Moore, lovely photographs in "Christmas Outdoors," the very informative article on hypothermia, the feature on the little nuthatch, to the back cover featuring the very beautiful snow scene with the lines by Robert Frost: a Christmas gift in itself!

Polly Edwards
Harrisonburg

BIERLY FAN MAIL

I have seen many of Mr. Bierly's paintings, but this ("Winter Woods," December 1980) is the most beautiful and realistic one yet. It's great to have an opportunity to own one.

Terri Miller
Clarksville, Maryland

We — and the Bierlys — have received several letters expressing these sentiments. We're glad so many people enjoyed "Winter Woods," because we hope to print more covers featuring Mr. Bierly's paintings in the future.—Assistant Editor

Editorial

WILDLIFE IN THE '80's

Before the next 10 years are over you may be launching your bass boat on the local park lake or doing your hunting with a camera. It depends more on economics and energy than on management of the resource.

Two big unknowns face wildlife administrators: the uncertainties of revenue derived from license sales and eroded by inflation, and the uncertainties of travel possibilities due to energy cost and supply. These two may merge into one problem as energy costs discourage sportsmen from investing in licenses. If license sales decline, fees will have to increase and/or services will have to be curtailed. This could tend to push fishing and hunting toward an exclusive recreation form as it is in Europe where only those willing to invest considerable money can participate.

Assuming business as usual, there will still be many changes in management direction in the '80's. It may come as a surprise to environmentalists that Environmental Impact Statements and associated red tape are discouraging procurement of lands and waters to preserve the natural environment and provide facilities for sportsmen. The approval process now takes virtually forever during which time the agency must suffer through endless hearings and perhaps even lawsuits to see such a project through. This, coupled with the high cost of land and the lack of prime sites near population centers will no doubt see a major reduction in land acquisition and development for hunting and fishing.

Counteracting this to some extent will be programs to increase urban involvement with fish and wildlife. Access to urban rivers will be improved and urban ponds will be better managed to provide quality fishing. Involvement in non-game management will lead to development of urban wildlife programs, improving the city dweller's chances of seeing wildlife. Fishermen and hunters will become more aware of possibilities close to home.

Management techniques will improve with computer sophistication and availability. Better access to data and better analysis will make management decisions easier and more precise. The electronics revolution is aiding in the gathering of data via more sophisticated instruments and data recording systems.

Future crises in wildlife management may sometimes involve too many animals rather than too few. Controlling excess deer on private lands not sufficiently hunted is becoming an increasing problem, resulting in soaring damage complaints. Most fishery management breakthroughs, like stocking exotic species, have already been exploited. A few new reservoirs such as Lake Moomaw (Gathright) and Commission-owned Briery Creek Lake (Prince Edward) will be coming along, but tight money and environmental red tape have shot down most others. The threat of lawsuits by anti-hunting and fishing groups discourages innovative management experiments as do required environmental impact reports. Special interest groups are now having a strong voice in management decisions. Some like BASS and the Wild Turkey Federation are doing their own research.

All is not gloomy, however. A recent release from the U.S. Fish and Wildlife Service reveals that polar bears and sea turtles are being tracked via signals broadcast through satellites. Transmitters have been designed for mice weighing as little as 1.4 grams. Perhaps through genetic engineering, a super fish will be developed that fights like a demon, grows fast and tastes delicious.—*HLG*

The shadbush blooms early, brightening the drab winter scenery; (inset) the berries of this tree, also called the serviceberry, are apple-red.

by Dan M. Russell

THE SHADBUSH

THIS EARLY-FLOWERING TREE IS ONE OF THE FIRST SIGNS THAT SPRING IS ON ITS WAY

The serviceberry (Amalanchier spp.) goes by many names: shadbush, because it blooms when the shad are running; Juneberry, because its fruit ripens in June; Checker tree, because its dappled, dark-gray, light-gray bark is reminiscent of a checker board. It is often called "sarvice" in this area, possibly a local pronunciation of service or a variation of *sorbus*, the Latin word for apple. The fruit of the service tree is sometimes called sorb-apple. This tree of many names is a valuable member of our native plant groups. There may be as many as 25 species in North America, mostly in the eastern U.S.

Serviceberry trees over six inches in diameter are seldom seen, but there are trees in Virginia that reach the maximum height of 50 feet and a diameter of 24 inches. And such a tree in full bloom is quite a sight, especially at the time of year when all the other trees are still bare and thinking winter. The large clumps of white flowers appear just before the leaves do. The five long, white petals are highlighted by five narrow, persistent red or pinkish sepals that cling to the base. These perfect flowers (having male and female parts) develop into long-stemmed clusters of fruit that resemble rose hips. When ripe, they turn a reddish-purple to almost black color.

The serviceberry tree is well known to wildlife habitat managers and outdoor lovers because of the showy, early-appearing flowers and because of the edible fruit that is so attractive to wildlife. Ripening in June, it is eagerly sought by some 140 species of birds as well as many mammals: raccoon, fox, and bear, among others.

Sometimes this tree is planted as an ornamental because of the showy and timely flowers. When given such care, it often reaches its maximum size. It takes transplanting fairly well. In moving one, it is best to take up the roots in a ball of earth, bound with burlap. The seeds can be collected, if you can beat the birds. Floating them in water will help with the selecting. Sound fruits will sink to the bottom and what floats is faulty. The seeds are then extracted from the pulp and kept cool and moist until planting. Choosing either method — transplants or seeds — depends on whether you are in a hurry or whether you prefer not to work so hard.

Serviceberry, shadbush, sarvice: whatever you choose to call it, is a welcome sight as the earliest flowering tree to brighten the drab woods and hillsides. Blooming well ahead of the dogwood and redbud, these white-fringed flowers remind us to get out the fishing rods. Winter is finished and it's time to get ready for springtime! □

Pets or Pests

Pigeons are one of the most familiar of our birds — maybe too familiar

by Robert G. Cobb

For many Virginians, particularly those living in our larger cities, the feral pigeon (Columba livia) is one of the most familiar of our avian inhabitants. Like the starling and the English sparrow, the pigeon is an Old World import that has flourished in this country. As often occurs with introduced species, it has reached problem proportions in parts of its adopted homeland.

While most people recognize the pigeon on sight, few study this interesting and easily-tamed bird in much detail. Man's relationship with the pigeon has been a long and often proud one. Attempts at domesticating wild rock doves, ancestors of our park pigeon, go back to almost 5,000 B.C. in Middle East history. In both ancient Greek and Roman cultures, the pigeon was regarded as sacred and associated with the goddess of love and fertility. More recently, the racing homer pigeon gained international acclaim and respect for its ability to penetrate enemy lines to deliver timely messages during both World Wars. Often their missions were completed in spite of severe shrapnel wounds sustained in flight. These swift birds would regularly complete their "assignments" of 250 miles or more in just four or five hours. It is not unusual for a homer racer to cover 500 to 700 air miles or for a champion bird to average from 50 to 60 miles per hour for this distance. Their stamina is just as remarkable as their speed, as one Army Signal Corps homer demonstrated by completing a 2,300 mile trip.

Pigeon fanciers throughout the world raise over 200 different varieties of domestic pigeons, some of which show little resemblance to the typical dove-like bird we see in our city parks. The young, called squabs or squeakers, are considered quite a culinary delicacy by many people and are often raised for meat production.

The feral pigeon is a year-round resident of our cities and towns, where it obtains much of its food requirement from the public. These birds learn fast from whom to expect a handout. If fed by the same person on several occasions, they can actually recognize these individuals and will approach them in anticipation of another meal.

Frequently while feeding a group of pigeons you may notice that some birds are banded with metal rings on one or both legs. In most cases these birds are racing homers that for some reason failed to return to their home lofts. Breeders tag their birds with numbered bands for registration in racing clubs. The rings are seamless and are slipped over the feet of the young squabs. They cannot be removed, thus providing a means of permanent identification. The band bears a serial number, the year issued, issuing association, and initials of the racing club. Local pigeon clubs can possibly assist in locating the owner of any bird with a seamless band. In fact, most breeders would appreciate knowing the status of their lost birds. Occasionally you may observe a bird with a colored band on one leg. This probably identifies a particular pair or family within a loft, and is not permanently attached as is the registration band. Speculating on where these domestic pigeons have come from can be an enjoyable part of your park outing and may also assist an owner in recovering a valuable bird.

All contact between people and pigeons is not so pleasant, however. Concentrations of the birds in and on buildings result in large accumulations of excrement. This can accelerate corrosion of valuable architecture and be expensive to clean up. Their nests of twigs and straw can present a fire hazard as well as clog gutters and drain pipes. The birds and their droppings can be a source of disease organisms. Numerous diseases injurious to man and his domestic animals are transmitted by pigeons. *Salmonella* bacteria, found in the feces, can infect people and animals, resulting in severe intestinal upset. The feral pigeon is also the most common source of infection of *Ornithosis*. This disease, often called parrot fever, can lead to death. Some of

Francis N. Satterlee

the other important diseases that can be traced to unhealthy pigeon populations include avian tuberculosis, coccidiosis, encephalitis and Newcastle disease.

In addition to the damage done to buildings and their potential as a source of disease, the pigeon can also inflict great losses on our food supplies by consuming large quantities of grain. The pigeon seldom if ever eats any insects, depending almost entirely on wild seeds and cultivated grains. They glean much of their food from grain fields after harvest or from spills around loading docks. But they can cause considerable loss in feed lots and feed storage areas. A report from one warehouse storing corn and milo gave an estimate of three tons of grain per week lost to feral pigeons. Obviously, they can cause great economic loss as well as contribute to health problems by contaminating storage areas.

In temperate climates like we have, pigeons breed and raise young throughout the year. No true breeding season is established, but early summer through early fall (when food is abundant) will usually find more active nesting sites. Each clutch consists of only two eggs, but often the hen has laid a second pair of the pure white eggs before the first squabs have left the nest, usually located on a window ledge, under a bridge, or in a building. Their ancestors, the rock doves, were primarily cliff dwellers, and today's pigeon finds modern high-rise architecture ideal for homemaking.

For the 18 days of incubation both male and female take turns warming the eggs. While the hen broods at night, daylight hours are usually split, the cock taking his shift from mid-morning to late afternoon. This allows both parents an opportunity to feed and exercise. The mated couple will maintain their pair bond for extended periods, possibly for the life of the birds. Only if one member of the pair dies or they are physically separated will a new mate be taken. The males will sometimes attempt to establish more than one pair bond, but generally monogamy prevails in the flock.

Within one to two hours of hatching the new arrivals are ready to be fed, a job shared by both parents. A high-pitched squeaking noise emitted by the squabs to gain the adults' attention soon becomes a familiar sound around the nest. It is this vocalization that has prompted pigeon breeders to refer to the young as "squeakers." The feeding technique of pigeons and doves is probably the most distinctive feature of this group of birds. Unlike the usual diet of worms and insects you would expect a baby bird to consume, the pigeons produce crop milk to feed their squeaking offspring. The milky, cheese-like substance is produced by the cells lining the crops of both parents. The crop milk, which is chemically similar to rabbits' milk, is then regurgitated into the mouths of nestlings. Soft foods and small seeds ingested by the adults are gradually introduced into the diet of the young until the milk is entirely replaced by seeds and other vegetable matter. At approximatly a month of age the squabs are able, though not always willing, to leave the nest. The hen is probably incubating another clutch of eggs and is less than tolerant of her older children. The newly "liberated" squeakers are on their own.

In a few weeks, their voices will change to the familiar coo of the adult and in the next few months their juvenile feathers will molt and they will take on the iridescent plumage of the mature birds. By the age of six months, the pigeon is capable of mating and starting the cycle over.

Some people can sit for hours enjoying the activities of these almost tame birds in our city parks; others raise them for sport or food; still others contrive innumerable methods of eliminating problem flocks. Whether you consider the pigeon a pet or a pest, it appears to be here to stay and we cannot disregard its presence. Indeed it is much too interesting to be ignored. □

Gem of the Shenandoah

In the Shenandoah's North Fork, the colorful redbreast is second only to the smallmouth bass as a fighter.

by Rich Hardy

The best gamefish in the Shenandoah North Fork besides the smallmouth bass is what locals call the river sunperch. These fish sometimes get to be eight or ten inches long and weigh just under a pound. A fish this size on light tackle is indeed an admirable fighter. Some people consider this only a food fish, but to me he is as game as any fish for his size.

In our section of the river, this fish has several nicknames. Some people call him redbreast, bream or robin. They come in several different colors, but the ones most prominent in the river are the golden underside with the lighter shade of turquoise color moving up his body.

The best time to fish for these panfish is from the middle of May until the last of June. These bream can be caught all during the summer months, but the big ones start spawning the middle of May and give some exciting action on topwater lures such as small Rapalas in 56 and 76. Some people use a fly rod and popping bugs, but most people would do better with spinning tackle because the water is usually very clear. Under these conditions the fish are very "spooky," and unless one is efficient with the fly rod, he will scare the fish away due to the splashing of the water made on the forward and backcast. With the ultralight spinning tackle such as a Cardinal 3 reel and Fenwick FS55 rod, one can use light line and small lures which make a minimum amount of noise. There is almost every day an evening batch of insects, so the small lures such as Rooster Tails and Panther Martins in the 1/16 and 1/32 ounce are sometimes very deadly. Personally, I love the thrill of topwater action, but my friends use these spinners with great success.

The topwater action is one of the reasons I rate the sunperch as gamefish rather than only a panfish. He is both to me, but few people I know seek him for his fighting abilities rather than his delicious fried taste. I have had some exciting moments from 6:00 until dark as these fish smashed my tiny Rapalas. My personal method is to throw the lure out and as soon as it hits the water to give it a "twitch." Many times this is the moment you get the hit. If nothing happens, I reel it in, twitching it every two feet or so. Many times the big sun perch will pop the water behind it or hit the lure and knock it up into the air. When this occurs I let the lure come to a stop and in a few seconds twitch it again. Many times this will provoke a strike. The sun perch seems to be playing with the lure on some days, and will bump the lure but fail to really hit it. These are the most difficult days, and require a very slow retrieve.

Once the redbreast is hooked, it is then I most admire his performance. The strike is good and solid, very similar to the surging smallmouth. Then he heads back to his hideout near a rock or the bank. When he feels the line holding him he goes into a frantic stage of movement. Many times he will swim directly for you, or turn his oval body sideways, and cause more resistance. Unlike a river smallmouth, he does not leap and tail walk the water, but he does give the rod a constant back and forth movement. If the water is clear, he will make one last good run when he sees the fisherman. After this, when you reach down to pick him out of the water, he will give his famous swirl for two or three circular turns. Each time I catch one I am amazed at the different colors of his body scales as the sun rays reflect on them. He has not the aerodynamic shape of a trout or bass, nor their sheer speed and fury, but his colors are as pretty to me as any freshwater fish. I am as proud of a fine string of these redbreasts as I am of any fish I take from the Shenandoah.

Few people really fish for sun perch in a way which brings out their sporting qualities. Most are caught with a bamboo pole and a nightcrawler for bait. This method puts meat on the table, but the fish is jerked from the water in a split second and there is no fight.

So, my advice to you is to get yourself an ultralight spinning outfit, some small surface lures, and go to a section of a river such as the North Fork of the Shenandoah between Mauertown and Woodstock. Be there for the night feeding period between 7:30 and 8:30. Then you will understand why a sunperch fights as well as he tastes, and deserves the title of "gamefish." □

Jack Randolph

ETCHED IN FIRE THE WILDLIFE WOODBURNINGS OF BERT PETERS

Virginian Bert Peters grew up in the forests around Pamplin and Howardsville, where his father, an avid nature lover, instilled in his son a love of the outdoors and wild creatures.

When Peters was a child, his parents gave him a woodburning set for Christmas. Thus the stage was set for him to develop the beautiful and unusual wildlife technique you see represented on these pages.

Pyrography is the fine art of woodburning. Peters adopted pyrography as his profession 11 years ago and has been free-lancing full time for the past seven years. He studied art at Virginia Commonwealth University, although pyrography has been essentially a self-taught medium for him. He also likes to experiment with mixed media, combining woodburning with carving and painting.

Peters has a gallery in Pamplin and also displays and sells his work at shows throughout the country. Owls are his favorite subjects: "The mystique and intensity of their expressions fascinate me," he says. He strives to create a realistic representation of these birds of prey while portraying the almost surrealistic drama that occurs in nature.

You can judge the results for yourself. □

marine life

geology

forests

wildlife

soil & water

Where Students Meet Nature Face To Face

Learning About Resources

The Environmental and Natural Resources Course is a great place for teachers to really get to know the natural world around them.

Sound natural resource education takes on ever-increasing importance as our citizens must make complex resource and environmental management decisions. The best place to reach the decision-makers of tomorrow is in the classroom today!

The Virginia Resource-Use Education Council, a privately-funded organization of conservation professionals, has designed this course to help teachers do a better job of presenting sound environmental concepts in the classroom.

During the three week course, students learn the basics of geology, soil and water, marine life, forestry and wildlife. Topics range from the complex ecological forces at work along our coast, on to a study of the resources of the forest and a look at the economic and aesthetic value of our wildlife heritage.

Thirty scholarships are offered at each of the four schools covering all tuition and fees, supplies and materials. An allowance toward room and board is provided for those who stay on campus. Applications will be accepted until all scholarships are filled. Scholarship recipients will be notified by return mail. Alternate courses will be suggested if the one applied for is filled.

Five quarter hours credit will be given at V.P.I. Three semester hours credit will be given for completion at Virginia State College, William and Mary and Longwood College. Credits may be used toward endorsement in Earth Science or Biology and the course can be used for certificate renewal credit. Qualified students may apply for graduate credits.

Though the course is aimed at teachers, supervisors and administrators, anyone interested in knowing more about the environment is encouraged to attend.

ACT NOW

Those submitting applications early stand the best chance of getting scholarships at the institution of their choice. Be sure to indicate your choice of college on the form.

Mail to:
Virginia Resource-Use Education Council
c/o Bernard L. Parsons
Seitz Hall Room 203
Virginia Polytechnic Institute & State University
Blacksburg, VA 24061

DATE _____

NAME _____

ADDRESS _____

CITY _____ ZIP _____

SIGNATURE OF APPLICANT _____

ENVIRONMENTAL EDUCATION COURSE:

☐ Longwood College: June 16-July 3, 1981

☐ VPI&SU: June 22-July 10, 1981

☐ Virginia State University: July 7-July 24, 1981

☐ The College of William and Mary: July 13-July 31, 1981

☐ I would like to apply for a scholarship.

☐ I would like to order *Virginia's Resources*, a text published by the Council, available from Virginia Environmental Education Publications, Inc., 800 Oriole Drive, Virginia Beach, Virginia 23451. I enclose $3.50 for each copy ordered.

1981 Trout Stocking Plan

Here is the trout stocking summary for the program being carried out by the Virginia Game Commission and the U.S. Forest Service. In some cases, if a sufficient amount of one species is not available, another will be substituted. Because of space limitations, the April stocking information has been incorporated into the "Preseason" column, and is noted by this symbol: †

LEGEND:
*—National Forest Waters
B—Brook Trout
R—Rainbow Trout
Bn—Brown Trout
†—Species Stocked in April

	Preseason	May	June	July
ALBERMARLE COUNTY				
Moormans River (N.& S. Forks)	R	R		
City Water Works (Sugar Hollow)	B,R	B,R		
ALLEGHANY COUNTY				
Downey Branch*	R,R†			
Smith Creek*	B,B†	B		
Pounding Mill Creek*	R,R†	R		
Jerry's Run*	R,R†			
Clifton Forge Reservoir*	R,R†	R		
AMHERST COUNTY				
Pedlar River (Upper)	B,R	B,R		
Pedlar River (Lower)	R	B,R	R	R
Piney River (S.Fork & Proper)	B	B		
Brown's Creek*	R,R†	R		
Davis Mill Creek*	R,R†	R		
Little Irish Creek*	R,R†	R		
Pedlar River*	R,Bn,R†	R,Bn		
AUGUSTA COUNTY				
Back Creek (S.Fork & Proper)	B,R	B,R	R	
Jerkemtight Creek*	R,R†			
North River*	R,R†	R		
(Falls Hollow)*	R			
Ramsey's Draft*	R,R†	R		
Braley Pond*	R,R†	R		
Back Creek*	R			
Mill Creek*	R			
Upper Sherando Lake*	R,R†	R		
Lower Sherando Lake*	R,R†	R		
Hearthstone Lake*	R,R†	R		
Elkhorn Lake*	R	R	R	
Rowland Pond*	R,R†			
Cold Spring Pond*	R,R†			
BATH COUNTY				
Bullpasture River	R,Bn	R,Bn	R	R
Jackson River	R,Bn	B,R,Bn	R	R
Spring Run	B,R,Bn	B,R,Bn	R	R
Back Creek*	R,R†	R		
Wilson Creek*	R,R†	R		
Pads Creek*	R,R†	R		
Jackson River*	R,Bn,R†	R		
BEDFORD COUNTY				
Hunting Creek*	R	R	R	
Battery Creek*	R	R		
BLAND COUNTY				
Hunting Camp Creek	B,R	B,R	R	
No Business Creek	B,R	B,R		
Lick Creek	B,R	B,R	R	
Wolf Creek	R,Bn	R,Bn	R	
Laurel Fork Creek	B,R	R		
Lick Creek*	R	R	R	
BOTETOURT COUNTY				
Jennings Creek	B,R	R	R	
Mill Creek	R,Bn	R		
Roaring Run	R,Bn	R	R	R
North Creek*	R	R	R	
Middle Creek*	R	R	R	
McFalls Creek*	R	R	R	
BUCHANAN COUNTY				
Hurricane Fork	B,R	B,R		
Dismal River	B,R	B,R	R	
CARROLL COUNTY				
Little Reed Island Creek	R	R	R	R
Stewarts Creek	B,R	B,R		
Big Reed Island Creek	B,R	B,R	R	R
Crooked Creek	B,R	R	R	
Burkes Fork	B,R		B,R	R
Lovill's Creek	B,R	R		
Laurel Creek	R	R	R	
Little Paul's Creek	B,R	R		
Snake Creek		R		
CRAIG COUNTY				
Potts Creek	B,R,Bn	B,R,Bn	R	R
Barbours Creek	B,R	R	R	
Barbours Creek (N. Fork)	R	R		
Cove Creek	B	R		
Schoolhouse Branch	R	R		
DICKENSON COUNTY				
Frying Pan Creek	B,R	B,R		
Russell Fork River	R,Bn	R,Bn	R	R
Pound River	R,Bn	R,Bn	R	R
FLOYD COUNTY				
Burkes Fork	B,R	B,R	R	
Howell Creek	B,R	B,R	R	
Rush Creek	B,R			
Little River (W. Fork)	B,R	R	R	
Meadow Creek	B,R			
Laurel Fork	B,R			
Mira Fork	B,R			
Goose Creek	R	R		
Little River	R	R	R	
Little Indian Creek	R	R		
Little River Fish for Fun		R		
FRANKLIN COUNTY				
Maggadee Creek	B,R	B,R		
Green Creek	B,R	R	R	
Runnett Bag Creek	B,R	B,R		
FREDERICK COUNTY				
Back Creek (Upper)	B,R	B,R		
Back Creek (Lower)	B,R	B,R		
Hogue Creek	B,R,Bn	B,R,Bn		
Cedar Creek	B,R,Bn	B,R,Bn	R	
Paddy Run	B,R	B,R		
Clearbrook Lake	B,R	B,R	R	R
GILES COUNTY				
Big Stony Creek	B,R,Bn	B,R	R	R
Sinking Creek	B,R,Bn	R	R	R
Dismal Creek*	R	R	R	R
GRAYSON COUNTY				
Big Wilson Creek	B,R,Bn	R,Bn	R	R
Middle Fox Creek	B,R	B,R	R	
Helton Creek (Middle Fork)	B	B		
Big Fox (Upper)	B,R	B,R	R	
Big Fox (Lower)	B,R,Bn			
Elk Creek	B,R	B,R	R	R

	Preseason	May	June	July
Peach Bottom Creek	R	R	R	
Helton Creek	R	R	R	
Hale Lake*	Rainbow to be stocked throughout season			
GREENE COUNTY				
Lynch River	B,R	B,R		
South River	B,R	B,R	R	
Swift Run	R,Bn	B,R,Bn	R	
HENRY COUNTY				
Smith River (Philpott)	B,R	R	R	R
Smith River (Bassett)	R	R		
Smith River (Koehler)	R	R		
HIGHLAND COUNTY				
Bullpasture River	B,R,Bn	B,R,Bn	R	R
Potomac River (S. Fork)	B,R,Bn	R	R	
Jackson River	B,R,Bn	B,R	R	R
Back Creek	B,R	B,R		
LEE COUNTY				
Hardy's Creek	R,Bn	R,Bn	R	R
Martin's Creek	B,R,Bn	R,Bn	R	
Powell River (N. Fork)	B,R	R	R	
MADISON COUNTY				
Garth Run	B,R	B,R	R	
Hughes River	B,R,Bn	R,Bn	R	R
Robinson River	R,Bn	R,Bn		
Rose River	B,R,Bn	B,R,Bn		
MONTGOMERY COUNTY				
Tom's Creek	B,R	B,R		
Poverty Creek*	R	R		
Craig Creek*	R	R		
NELSON COUNTY				
Tye River	B,R,Bn	R,Bn	R	R
Tye River (N. Fork)	B	B		
South Rockfish River	B,R	B,R		
Stony Creek	B	B	R	
PAGE COUNTY				
Cub Run*	R,R†	R		
Upper Passage Creek*	R,R†	R		
PATRICK COUNTY				
Dan River (below Powerhouse)	B,R	R	R	R
Dan River (above Powerhouse)	B,R	R		
Rock Castle Creek	B,R	B,R		
Round Meadow Creek	B,R	B,R		
Mayo River (N. Fork)	B,R	B,R		
Mayo River (S. Fork)	B,R	B,R		
Poorhouse Creek	B,R			
Big Ivy Creek	B,R	B,R		
Ararat River	B,R	B,R	R	
PULASKI COUNTY				
Peak Creek (W. Fork)	B,R	R		
ROANOKE COUNTY				
Roanoke River	B,R	B,R		
Tinker Creek	B,R	B,R		
Glade Creek	B,R	R		
ROCKBRIDGE COUNTY				
Mill Creek	B,R,Bn	R,Bn	R	R
Irish Creek	B,R	B,R	R	
South River	B,R	B,R		
Maury River (Goshen Pass)	B,R,Bn	B,R	R	
ROCKINGHAM COUNTY				
Shenandoah River (N. Fork)	B,R,Bn	B,R,Bn	R	
Dry River	B,R	B,R		
Briery Branch	B,R	B,R		
Silver Lake	R,Bn			
German River	R	R	R	
Boone's Run*	R	R		
Shoemaker River*	R,R†	R		
Skidmore Fork*	R	R		
Briery Lake*	R,R†	R		
Hone Quarry Lake*	R,R†	R		
Hone Quarry Run*	R,R†			
RUSSELL COUNTY				
Copper Creek	R	R	R	
Big Cedar Creek	B,R	R	R	
Laurel Bed Lake[1]				
SCOTT COUNTY				
Little Stony Creek (Lower)	B,R	R	R	
Stock Creek (Lower)	R	R		
Stock Creek (Upper)*	R			
Big Stony Creek	R	R		
Little Stony Creek (Upper)*	R	R	R	
Straight Fork*	R	R	R	
SHENANDOAH COUNTY				
Passage Creek	B,R,Bn	B,R,Bn	R	
Big Stoney Creek	B,R,Bn	R,Bn	R	R
Cedar Creek	B,R	B,R	R	
Mill Creek	B,R	B,R	R	
Paddy Run*	R,R†	R		
Cedar Creek*	R,R†			
Peters Mill Creek*	R,R†	R		
Tomahawk Pond*	R,R†	R		
Little Passage Creek*	R,R†	R		
SMYTH COUNTY				
S. Fork Holston River Gorge*	R	R	R	R
S. Fork Holston river (Lower)	B,R,Bn	B,R,Bn	R	R
Big Laurel Creek	B,R	B,R		
Staley's Creek	B,R	B,R	R	
Middle Fork Holston River	R,Bn	R,Bn	R	
Comer's Creek*	R	R	R	
Hurricane Creek*	R	R	R	
Houndshell Creek*	R	R		
Dickey's Creek*	R	R		
Middle Creek*	R			
TAZEWELL COUNTY				
Wolf Creek	R,Bn	R,Bn		
Cove Creek	B,R	B,R	R	
Laurel Creek	B,R	B,R		
Roaring Fork	B,R	B,R		
Little Tumbling Creek	B,R	B,R	R	
WARREN COUNTY				
Gooney Run	B,R,Bn	B,R,Bn		
WASHINGTON COUNTY				
Whitetop Laurel (Upper)	B,R	R		
Whitetop Laurel (Below)	B,R,Bn	R,Bn	R	R
Tennessee Laurel	B,R	B,R	R	
Green Cove Creek	B,R	B,R	R	
Big Brumley Creek	B,R	B,R	R	
Big Tumbling Creek	B,R	B,R	R	
Valley Creek	B,R	B,R	R	
Straight Branch	R	R		
Straight Branch*			R	
Beartree Impoundment*	R	R	R	
WISE COUNTY				
Middle Fork Powell River	B,R	B,R	R	
Mountain Fork*	R	R		
Burns Creek*	R	R		
Clear Creek*	R	R		
High Knob Lake*	R	R	5,000 to be stocked June — November	
WYTHE COUNTY				
E. Fork Stoney Creek*	R	R		
Gullion Fork Creek*	R	R		
W. Fork Dry Run & Dry Run*	R	R		
W. Fork Reed Creek*	R	R		
Gullion Fork Pond*	R	R		

[1]After November 1, 10,000 sub-catchable brook trout will be stocked in Laurel Bed Lake

by Jessie S. Grigg

COMMON BIRDS

A CLOSER LOOK

The Virginia piedmont provides widely varying habitats for birds, so there are many different species for the bird watcher to identify. You can determine the correct species not only by appearance and song, but by nest building, mating and feeding habits and by flight patterns. As you learn fascinating and interesting facts about each species, you will be increasingly attracted to their oddities of personality and distinctive habits.

Nest-building time will soon attract the interest of bird watchers. Early morning is a good time to observe nesting practices and family habits. If you have trees and shrubs in your backyard, many of the summer visitors will stake out a claim. Others will hunt for tall grasses and marshy places. Knowing their habits will help you narrow your search. Watching just where they choose to stake out their territories will help you to locate the nest more easily. The peculiar building techniques of a species will help you identify them. Bird nests are amazing products of architectural skill, from crude pilings of debris to structures of intricate architectural engineering. If you should take apart a discarded nest built by one of these skilled architects and count the individual pieces, you may find the total in four figures.

The cardinal has been one of my favorite birds since I was a child and saw numerous cardinals perched on a tree like so many shiny Christmas ornaments. I have since learned that the cardinal is a favorite with many. His distinctive coloring makes him easy to recognize. He is often called "Virginia's Red Bird" and the British call him the "Virginia Nightingale." He has a refined and courtly manner of superiority in the feathered kingdom. He is a morale builder as he adds his brilliant costume to the scene and entertains with his remarkable musical ability. His "chee-chee-chee" can be heard throughout the year.

The male cardinal is a model of masculine virtues. He sings to his mate while she builds her nest of twigs and grass low in a tree, vine or Bush. He brings food to her while she nests. After her three to four young ones have left the nest and start to mature, the male takes over their care while the female starts a new nest and makes preparations for a second family. Although I have studied the activities of the cardinal for many years, it has only been recently that I observed the cardinal "anting" — a process in which the bird extracts ants from an anthill and deposits them upon his feathered coat where they eject formic acid to assist in the ritual of preening his feathers and killing insects.

The bobwhite is another year-round visitor easily recognized. Bobwhites often seem to disappear during the winter months but when the mating season arrives they reappear as your tenants. With spring's arrival they pair off and set up housekeeping in the shelter of thick tufts of grass or bushy tangles. They raise only one brood a year, but it may contain as many any as 18 youngsters. They are scarcely larger than marbles when they emerge from their shells, but are ready to run briskly as soon as hatched. Last year a covey hatched just outside the garden fence in the tall grass. They came inside to hide under the large squash leaves. When I raised a leaf to look for a squash, they scurried in every direction. They soon hid in the vegetation and remained there until I left the garden.

The black-capped chickadee often develops a scowl in winter, but when he changes his vocalization to a full-throated, clear "phee-be" you will know that he is announcing his intention to go "a-courtin'" to find a mate and prepare for eight or 10 tiny acrobats which will soon hang upside down on a wind-tossed limb. The male is truly a family man, participating in all family activities.

Among other birds that stay the year round in this area are mockingbirds, sapsuckers, woodpeckers, bluejays, juncos, English sparrows and many others. A study of the habits of each is rewarding. You will see the woodpecker using a stiff pine needle to extract insects from the bark of trees — just one of his oddities.

It is always interesting to see the first immigrants. An early one is the ruby-throated hummingbird, which can be seen as soon a spring flowers open their nectar cups. These tiny 1/10-ounce birds are truly masters of flight. They are able to move in any direction, and their travel has been estimated at 60 or more miles per hour. If you observe patiently, you may see this tiny bird putting crows to flight as they avoid the thrusts of his needle-like bill. His special charm is his green plumage and his iridescent red or orange

breast. He is truly a master of the air, sipping nectar while in flight. Watch for his tiny nest, high on a flat limb. It is a fairy-like cradle covered with lichens and lined with plant down. Two little hummers will eventually emerge. If you are lucky, you will see the mother bird feeding her young by regurgitation. The male is not a musician but he is a skilled aerial dancer, who demonstrates his delight by zipping up and down at a terrific rate of speed.

Although bluebirds are becoming scarce in the piedmont, if you look sharply in open country or suburban areas you will be eventually rewarded. The bluebird likes people and will delight you by both his distinctive blue coloring and his happy song as he sits on a fence post. The bluebird often selects an old woodpecker hole as the location of his nest made from grasses, roots and twigs, and lined with feathers. The nest soon contains three light blue eggs. The incubation period is shared by both the male and female as is the feeding and training of the young. The male takes over the young family while the female starts a new family. Often three families are raised in one season. English sparrows and starlings frequently destroy the bluebirds' eggs or young, so they have learned to be good fighters. Through all the complications of raising several families, the male keeps up his cheerful song —"cheerily-cheerily." Perhaps this is the reason he is so often called the "bluebird of happiness."

The house wren, bird of garden and orchard, is a tiny scrap of energy with a bubbly song. He builds his twiggy nest in woodpecker holes, clothespin bags, or discarded boxes or containers of many varieties. They often choose to nest inside outbuildings where miscellaneous items are discarded. My husband's workshop door often stands ajar —an invitation which the wren accepts. Her nest may be found in almost any container. Wrens raise from one to three families each season. The male builds a series of nests from which the female may choose. The female is a bit hard to please, for after making her selection she frequently refurbishes it before moving in. While the female nests, the male sings, drives off other birds, and often builds other nests. He has been known to team up with another female and start a new family before his first mate hatches their offspring. Some, however, mate for life.

If you have a farm pond or a bit of marshy land, as we do, you will probably have a colony of redwing blackbirds. The black forms with red shoulder patches are in vivid contrast to the landscape. Males come first to stake out a claim. Their treetop choruses are distinguished by their throaty "con-ka-ru" songs. Soon they will be joined by their mates in subdued dress. They build grass and cattail nests among bushes, and raise families of four or five young. The male stands by to drive off crows and other predators. They even protest when humans trespass.

A true musician and aristocrat is the wood thrush — often called the swamp angel. These handsome russet-backed songsters often nest in shrubbery near dwellings. They frequently build near a window or door where you may look down into their nests. They show no fear of humans but give off vehement alarm notes when a cat approaches. Last summer I sat near a nest by our front porch and counted the number of trips made by the mother during an hour to feed her young. Her total of thirty trips per hour would be equivalent to 300 or more during a day.

The meadowlark is another favorite. He is distinctive with his long legs and big feet especially adapted to walking. His underneath of bright yellow shades into streaks and spots of brown. His outer tail feathers — usually white —are spectacular in flight. The meadowlark is difficult to spot as its coloring blends into the grass and stubble where he lives. It rises in flight toward the treetops with a whirring sound suggestive of the quail. His nest is a structure of dried grasses on the ground, often roofed over making it difficult to see. His voice in song outranks most other songbirds. It is rich and full as he whistles "spring of the year."

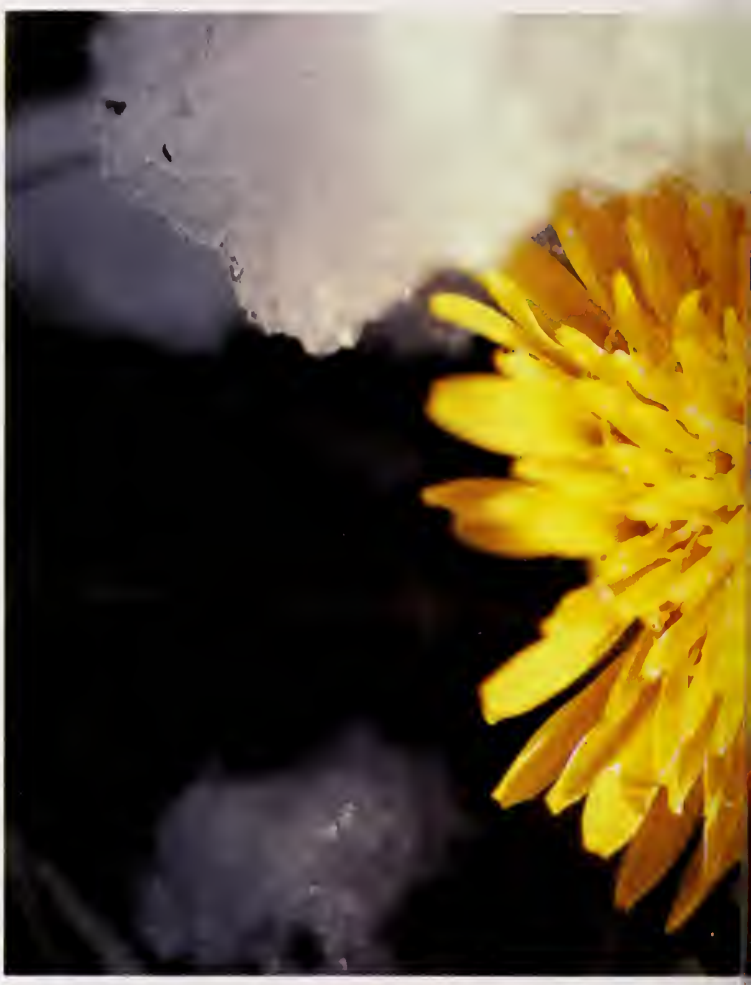
Look for other favorites with their own peculiar characteristics. You will see and hear everyone's favorites — the song sparrow, flicker, phoebe, purple martin, mockingbird, chickadee, robin, and many others. The morning you spend with your feathered friends will pay dividends of interest, entertainment, relaxation and enjoyment. With all of their oddities, beauty in form and color, variations in musical renditions, it is small wonder that birds are the most observed, photographed, weighed, measured and enjoyed of all species of life in the animal kingdom. □

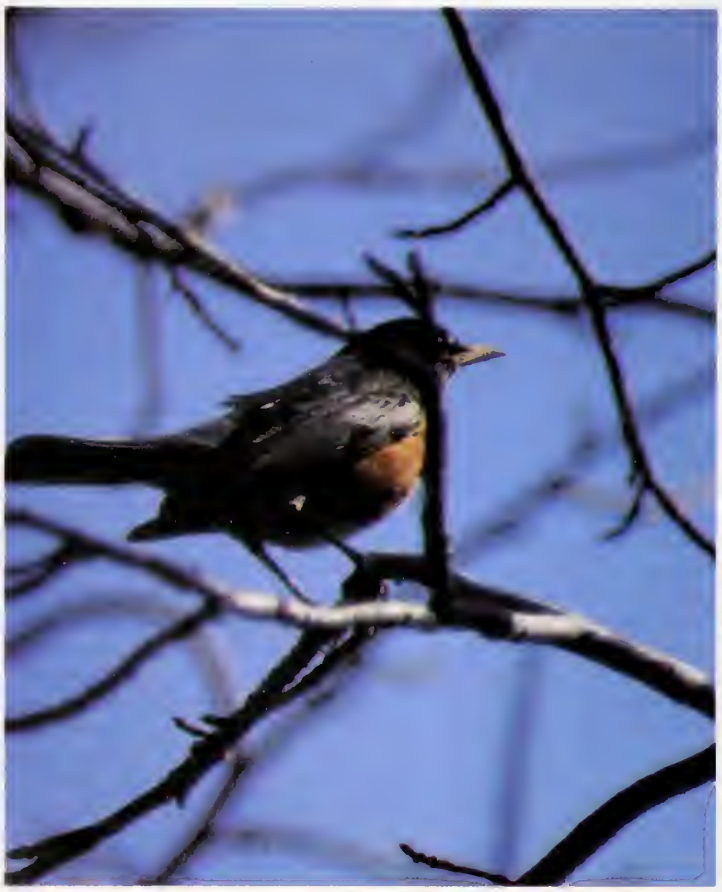
The Thaw
March's Soggy Rescue

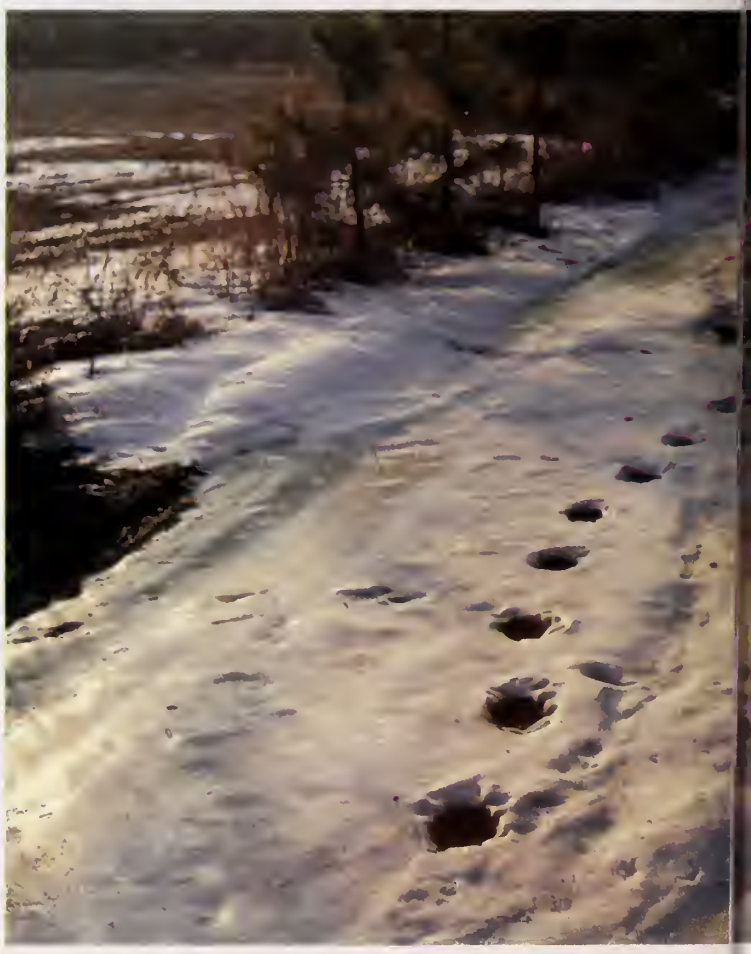
by Pat Cooley

Frozen in slush, mysterious-looking paths developed from boot prints stamped up the dirt road when the snow was ankle deep, just a day earlier. The icy pendants and the frozen slush were yesterday's melt preserved by the still-freezing nights. It looks like the thaw has finally arrived, just when it seemed winter would never end (below, right).

An early robin pushes its brick-red breast towards the warming sun as it surveys the thawing meadow for loosening earthworms and meaty insects, hopefully enticed by the thaw to unscrew in the waterlogged field (below, left).







A glassy spike of frozen water dangles just off the pond's edge, collaring its rim like a jeweled pendant (above).

The thawing, warming marshes stir tiny frogs back to life as males again chirp their calls loud and clear, inflating puffy sacs just under their glistening chins (left).

Loosened from the snow's grip, a dandelion which felt the spring coax a bit too soon brightly explodes through the suffocating cover (above, center).

Prescribed burns are used to benefit wildlife and remove excessive buildups of ground fuel that could lead to uncontrollable wild fires.

Friendly Fire

Forestry and wildlife experts now view controlled fire as a useful management tool

by Paul H. Bratton, Jr.

A woodland spring is a time of wildflowers and life's renewal. As sap rises in trees and shrubs, the winter's buds burst forth into flower and then the first tender leaves of the new year appear. But spring is also the time for a more sinister phenomenon: fire. Warm breezes dry the leaf litter of the forest floor. Any snow cover soon disappears so that a week or two of dry weather can turn the forest into a tinder box — menaced by every lightning storm, careless camper, or malicious arsonist.

Mountaintop lookout towers once stood guard over the forests of western Virginia. Manned during the spring and autumn, periods of greatest danger, the lookout was able to detect a fire before it could spread. Today that job has largely been delegated to observers in spotter planes who patrol a much wider range than can be viewed from any fixed station. When suspicious smoke is detected, a spotter plane can often be over the fire in a matter of minutes, directing fire crews and, if necessary, water bombers to the scene.

From a distance, morning mists and clumps of the white-flowered serviceberries resemble puffs of smoke. But there is no mistaking the white plume that marks a full-fledged forest fire. Once a fire is located, fire crews are rushed to the areas where they can be most effective. On National Forest and some adjacent lands, the fire crews are comprised of regular and part-time employees of the U.S. Forest Service who are trained and equipped for fire suppression duty. Crews from the Virginia Division of Forestry handle the job of fire control on private woodlands in Virginia.

Once on the scene, containing the fire is the first concern. Fire breaks are cut around the perimeter. Where possible, streams and roads are used but mostly creating the fire break is hard work. Any potential fuel is removed from a five- to 10-foot lane in the path of the flames. This means scraping and chopping all leaf litter, downed logs, and standing snags out of the lane so only noncombustible mineral earth remains.

As the ground crews work at containing the spread of the flames, a water bomber might be called in to quell the worst of the flare-ups. Flame-retardant chemicals, mixed with the water payload, help coat the ground cover and make it less susceptible to combustion.

With completion of the fire break lanes, back fires are set. The back fire is designed to burn from the fire break to the approaching flames. When it meets the original fire both fires are extinguished as the ground fuel has been consumed.

Encircled and brought under control, the forest fire is reduced to a smoldering ruin. Only the flare-up of an occasional dead snag lights the scene as night descends on the blackened forest. A mop-up crew will search out the hot spots and keep watch until the fire is dead but now the surrounding forest is safe.

Most forest fires in Virginia are ground fires. The leaf litter as well as many shrubs and smaller plants are consumed but the thicker bark of mature trees will often protect them from the flames. Tree-denning wildlife, like squirrels and raccoons, are especially threatened by all forest fires. Even in a ground fire the hollow den tree behaves like a chimney on a fireplace, drawing smoke and flames through the den.

While the various threats an uncontrolled forest fire poses to woodlands, wildlife, and water quality are well known, today there is a growing acceptance of fire as a management tool. "Prescribed burns" are used to benefit wildlife and remove excessive buildups of ground fuel that could lead to uncontrollable wild fires. The most disastrous fires in U.S. history were fueled by the slash left in the wake of the "cut and run" logging practices of the late 1800s. One Wisconsin fire burned more than a million acres of forest and adjacent human settlements, killing 1,500 persons.

Though the cautious use of fire is a relatively new tool in the science of forest and wildlife management, man has used controlled and uncontrolled fires since the Stone Age. Besides the usual cooking and heating purposes, early man used fire as an aid in hunting. Such a planned fire could be used to drive game animals into a trap, or sometimes over a cliff.

But perhaps the most farsighted use of fire were the "prescribed burns" that enabled hunting bands to create a habitat more suited to their prey animals. From the savannas of Africa to the Great Plains, fires were set to produce grassy openings and new browse. The journals of Lewis and Clark, as well as accounts by explorers that followed them, often describe prairie fires that darkened the western skies. These burns produced the succulent new growth favored by the great herds of buffalo, antelope, deer, and elk that roamed the sea of grass.

The valleys of Western Virginia once hosted lesser herds of buffalo and elk. Here, too, the native Americans used fire to keep the encroaching forest at bay and provide an abundant hunting ground. For centuries, extensive areas of the Shenandoah Valley and other sections of the Great Valley of Virginia were regularly burned to produce the grassy plains that greeted the first European settlers. The Cowpasture, Bullpasture, and Calfpasture River Valleys to the west were named for these fire-produced grassy openings and the buffalo that grazed them.

An evolving ecological consciousness has led the modern wildlife and forest manager to a rediscovery of the benefits of controlled burning.

Only recently considered an unmitigated evil, there is now a better understanding of fire and its place in the natural order of the forest. Today, highly developed fire suppression techniques can minimize the damage of wild fires, while carefully administered prescribed burns can help create a more abundant habitat for Virginia's wildlife. □

The Eastern Shore Algonquians

Vestiges of Their Past

by Emily VanKesteren

Because the Native Americans were the original heirs to this state's wilderness bounty, it seems only fitting that we examine their past from the arrival of the Europeans in the early 1600's until their desecration sometime in the latter 19th century. The Indians of Tidewater, Virginia (Williamsburg, Norfolk, the Eastern Shore) were Algonquians.

The Eastern Shore aboriginees owed allegiance to Powhatan in a loose confederation by "blood and government ties." Powhatan lived on the western side of the Chesapeake Bay. Since it would have been extremely difficult to cross the rough Chesapeake in light canoes for the mere act of subjugation, it is believed that the peninsula Indians yielded through fear of conquest, unaware of Powhatan's restricted naval power. This great werowance, or chief, simply "ruled" over his 30 tribes (about 8,000 subjects), collecting tribute (e.g. beads, skins) each year and allowing them to retain their own chieftains.

In many ways the Eastern Shore natives lived in a kind of geographical Utopia. The mild climate and generous soil yielded copious amounts of grain and tobacco with minimal labor. If their crops failed, oysters, clams, fish, fowl, deer, bear, terrapin, and other game and shellfish were plentiful. Isolated from nomadic, warlike tribes of the mainland, these Indians were not threatened constantly with the oppression of war. They seemed content with their wealth of resources and did not have to make raids against their neighbors for additional food or land. Their pacifism and lack of resistance made them rate high with the Europeans.

The Algonquians of Virginia's Eastern Shore were remarkably self-sufficient, utilizing every resource in some manner. Even a human skull could be substituted for a dish or used in a medicine kit.

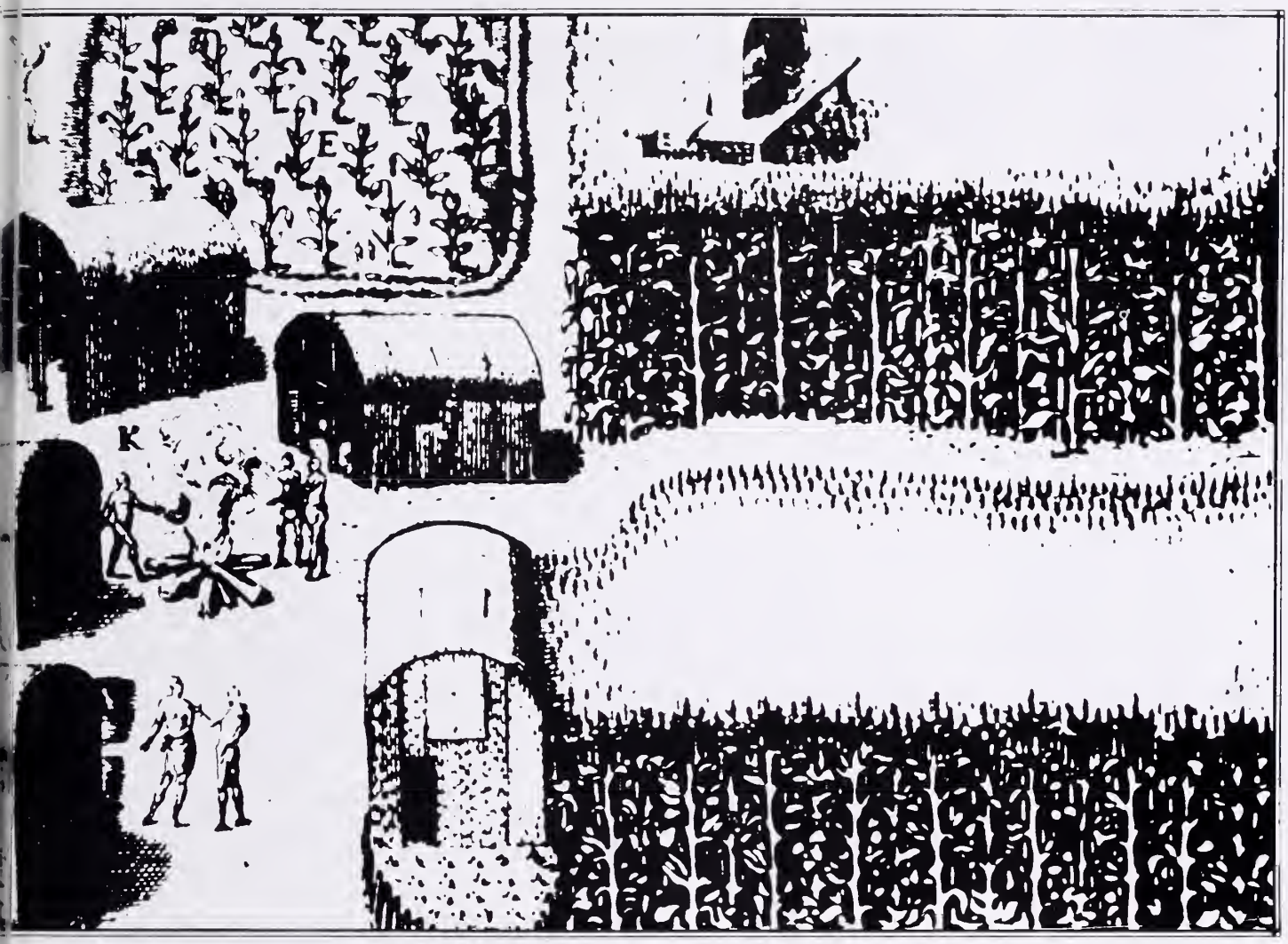
Their method of building a canoe was awesome. A tree (usually an oak or pine) of proper size was selected, and the tree was felled by fire kindled by dry wood chips and moss. The limbs and top were removed. The trunk was hauled onto a platform of forked posts and cross poles. The bark was stripped off with shells. The hull was shaped and hollowed by burning and scraping with celts (woodworking tools) and shells.

The Indians fished in several interesting ways. When night fishing, a fire was built in the center of the canoe for the dual purpose of attracting and blinding the fish, making them easier for the fishermen to see and catch. The oars were flat on one end for propelling the canoe and sharp-pointed on the other end to gig the fish.

The bow and arrow were sometimes used to impale fish. Hands were used to grab fish in shallow water. Weirs traps were made by driving stakes into the stream bottoms, leaving narrow openings so the fish would not likely escape.

When enough fish were caught to feed the fisherman's family and guests, four sticks of equal height were set in the ground with a fire beneath. The fish were broiled on top of the stakes.

The Eastern Shore was a hunter's paradise. For several weeks, the tribesmen resided in temporary villages near sources of rivers and hunted every day for food to last several months. By cutting meat into strips, drying it in the



sun or cooking it slowly over a fire, it would keep for several months.

Nearly every part of the white-tailed deer was utilized by the Indians: meat for food; hide for clothing and bedding; sinew for ropes; hoofs for glue; antlers for headdresses and tools; and grease for rubbing on the body to ward off mosquitoes.

Deer were hunted by the following strategies: (1) A circle of fire approximately five miles across was devised to frighten them to the center. (2) Deer were forced out on a point surrounded hy water. (3) The hunters camouflaged themselves with deer skins, allowing them to get close to a herd.

The Algonquians of this area were primarily farmers. A section of land was selected; the underbrush was cleared of stubble with fish hones, antlers, or shells attached to wooden handles. A fire was set to deaden the roots. A field was not always fertilized with fish. In fact, a field was often farmed until the soil exhausted. It was then left fallow with natural succession taking place and a new area of land was sought.

The Algonquians assisted the colonists in adjusting to their natural environment. However, many factors accompanying the mammoth surge of white man's civilization contributed toward the decimation of the Native Americans. Their primitive methods of hunting were no match against the Europeans' fowling pieces and shot which soon made hunting unprofitable for the Indians. The once-plentiful game and natural habitat were both disappearing quickly. Tribal lands were being encroached upon rapidly by the settlers and were sold to them for a few Indian blankets or heaver skins or given away.

As if his loss of territory (in terms of land) were not a vicious enough injustice, the Native American was coerced into becoming an indentured servant or slave of the white man.

Despite laws enacted by the courts to protect Indians and their lands, these people seemed doomed from the start against the ironclad destiny of the white man.

Disease, namely smallpox and tuberculosis, took its toll against the natives who had not yet developed an immunity against white man's illnesses.

When Captain John Smith first landed on Virginia's Eastern Shore in 1608, there were approximately 2,000 Indians residing there. By the early 1800's only a few vestiges of aboriginee life remained.

Although there are no full-blooded descendants of the original Algonquians living on the Eastern Shore today, physical features of these people are evident in some of the black population. Individuals with Indian ancestry living on the Shore have done nothing to preserve native customs or traditions. However, many towns and bodies of water retain the original Indian names.

A lesson can be learned from the demise of the Algonquians: The Indians thought that the Eastern Shore had ahundant natural riches that could be shared by all, but they were soon proven wrong. There is a limit to how many can use our natural resources without depleting them. □

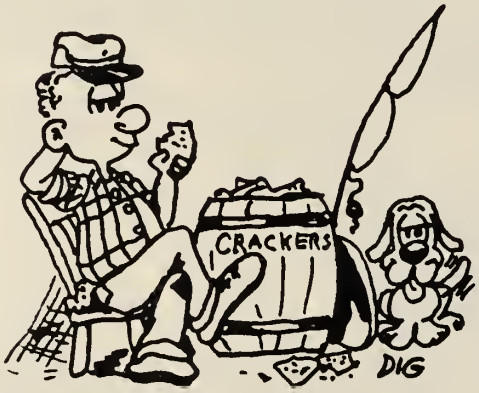
It Appears to Me

by Curly

. . .A PERSON OUGHT TO HAVE ONE

If you are interested in the wilderness, "The Real Wilderness," you'll be interested in learning that the American Forestry Institute, in its publication "Green America," takes a close look at the origin of the wilderness concept. The AFI also scrutinizes the debates which resulted from passage of the 1964 Wilderness Act. Free copies (single) of "Green America" are available from the American Forestry Institute, 1619 Massachusetts Ave., N.W. in Washington, D.C. Additional copies are available at ten cents each with the requirement that, if multiple copies are desired, a one-dollar shipping and service charge must accompany the order.

Those of you who are specifically involved in the business of farming, recreation, fishing, construction and, for that matter, anyone involved in being outdoors, should be interested in the weather and how it affects the above-described activities. Wetting your "pinky" and holding it up to check the wind direction and velocity, calculating the change of weather by the condition of your corns, rereading the latest Farmer's Almanac, or by whatever method we make determinations along those lines needs some scientific help these days. Especially if your collective goals involve actions aimed at averting weather-related problems involving fuel shortages and the loss of food crops due to inadequate information about weather or the lack of timely dissemination of data pertinent to the situations in which we are involved. With just that in mind, the Department of Commerce's National Oceanic and Atmospheric Administration (NOAA) has just recently produced a five-year plan aimed at reducing the adverse affects. The goal of the plan, which was produced by the National Climate Program Office, is to enable us folks described above to receive information about current and forthcoming climatic data in time to be able to utilize it to the best advantage. In all 11 federal departments and six other organizations including the National Science foundation contributed to the plan. To obtain a copy, contact NOAA's Environmental Science Information Center, 6009 Executive Boulevard, Rockville, Maryland 20852 or by phone 301/443-8330.



Two if the most hackel-raising words to come down the pike in the past few years are *steel* and *shot*, especially when the two words are spoken one after the other and in conjunction with a discussion on or about waterfowl hunting. For years, I have personally sat uncomfortably through countless debates at a variety of locations while experts from both the "fer" and "agin" blasted away in heated and impassioned arguments. I was alternately convinced and dissuaded on both accounts. Well, sir, once again those good folks at the National Wildlife Federation have taken some positive steps to help sportsmen-conservationists solve a controversial issue. The NWF has strongly supported the steel shot regulations from the very beginning and now designates steel shot zones in parts of 27 states in the Pacific, Atlantic and Mississippi Central Flyways.

In an effort to help sportsmen-conservationists to evaluate the results of the countless scientific studies which have been done on this issue, the NWF has meticulously prepared a 31-page review of all the material published since 1976. Fifty-seven studies have been summarized. These studies examine the crippling rate of both the lead and steel shot, ballistics, poisoning by lead, and the ingestion of both steel and lead shot. The review emphasizes the fact that studies on crippling "clearly repudiate the contention that steel shot is less effective and causes greater crippling than lead." Both the Missouri Department of Conservation and the United States Fish and Wildlife service cooperated to produce the most recent of these reports. In the review, lead poisoning is studied from three different aspects: wingbone residues, die-offs and dosing studies.

The report or review can be obtained free of charge by dropping a line to Dr. Michael Berger, National Wildlife Federation, 1412 16th St. N.W., Washington, D.C. 20036.

. . .FOR YOUR BOOKSHELF

Any of you who are involved in developing programs designed to protect the coastal resources will be pleased to learn that the federal government has published a handbook which will be most helpful. Entitled *Coastal Environmental Management: Guidelines For Conservation of Resources and Protection Against Storm Hazards*, the guidebook deals with such things as hurricane damage, beach erosion, wetlands conservation, estuarine pollution, and saltwater intrusion into drinking water supplies. The guidebook also deals with coastal uplands, floodplains which are coastal in nature, dunelands and banks and bluffs. It seems to me that any organization that is concerned about ecology, whether it involves coastal areas or not, should at least be aware of what is being done in these areas. All you club presidents, secretaries and other prime movers, consider obtaining a copy of this publication which sells for only $5.50 from the Superintendent of Documents, U.S. Government Printing Office, Washington D.C. 20402. Ask for the publication number (064-00-00009-8).

AND THEN. . .

In a recent letter from a dear friend of mine in Minnesota, (M.L.) penned a "PS" which I want to share with you as I reckon it bears repeating right about now. Since the author is unknown to me, I am unable to credit the individual except with an "un-thrown bouquet" which is much deserved. "Worry is the interest paid by borrowing trouble." □

Spike Knuth

Bill Ivy

Woodsman Spare That Den Tree

The joys of managing rural property for wildlife

by Edward Wold

A landowner committed to the idea of leaving resources to future generations includes some long range goals in the management plan for his property.

A body of water attracts wildlife and enhances property value (right).
It is important for the preservation of wildlife and ecological balance to leave an occasional den tree in the forest even though the landowner may be tempted to cut it down (far right).

It is well known that the number of acres of privately owned forestland in the United States is very significant. In recent years, governmental agencies such as the Agriculture Stablization and Conservation Service of the U.S. Department of Agriculture have made available to the small woodland owner various forestry incentives to assist the thousands of men and women who desire to be good stewards of their land. However, some property owners may not be aware of the various types of assistance available to them. The question "What should I do with my woodland?" is one every landowner should consider. Choosing one goal does not necessarily mean others must be set aside. There are ways that, through careful planning, the small woodland owner can "have his cake and eat it, too."

For the private landowner who desires to manage his forest wisely, a good first step might be to contact a professional forester to request an inspection of his land. It is very likely that the landowner will be asked what he would like to do with this woodland. This in itself suggests that there can be many goals. What fits one property owner's plan may not necessarily be applicable to his neighbor. What has impressed this writer is that there does not have to be one single use for any given tract of land. Not only is it possible to have several goals in one's management plan, but these can be mutually supportive.

For example, someone might have the following goals for his forestland: encourage crop trees to grow for saw logs, a long-term goal; cut firewood for winter fuel supply; improve wildlife habitat to increase wildlife population; and beautify the woods for aesthetic purposes. By thinning, pruning, and using other silvacultural practices, the quality of the forest can be improved and in the process, the trees cut may be used as firewood. The small branches of trees cut in the thinning operation could be piled to provide cover for wildlife. Very small areas could be clear cut to provide nesting sites for various species of birds and animals. Also, in thinning, the forest is "opened" so that the better quality trees such as oaks will have room to grow and thus provide more mast for wildlife. As poorer quality and diseased trees are cut, the general appearance of the forest improves, thereby providing for beautification for aesthetic purposes. Thus, as steps are taken to meet one goal, other goals are also being met in the landowner's overall plan to maximize the potential of his property.

I have had great satisfaction achieving such goals on 35 acres of mixed hardwood and pine in the southern Appalachian Mountain which I and my family own and on which we built our home. The attempt to practice good forestry and land management has brought to us a deep sense of satisfaction. I wish to emphasize that these are merely personal observations and goals which seem to fit our situation and the reader may well have different ends he strives to attain for his property. For example, my family owns a 50-acre farm in northeastern Minnesota, partially forested, including a 10-acre red pine plantation, where the management plan is quite different from the property in Virginia. For example, the near proximity of a paper mill to that farm facilitates the sale of pulpwood from thinnings from the red pine plantation. Whatever the possibilities which a given situation offers, the joy of totally identifying with one's land and seeing it develop its potential is something worth attaining.

Immediately after purchasing the original 15 acres of timberland, I sought technical advice and assistance from the Virginia Division of Forestry. A forester and forest warden visited the property and a written report was made with certain recommendations in accordance with my broad goals. A soil survey was done by the ASCS and recommendations made. An additional 20 acres were later purchased which added new and broader goals to the management objectives.

One of the first steps taken to begin improving the growth of the forest was a five-acre timber stand improvement project. The forester marked hardwood trees to be kept and the plan included cutting all other trees and brush. Financial incentive assistance was provided through the ASCS. The basic purpose for thinning this area of the forest was to improve the quality of the remaining trees for eventual use as saw logs. However, there were several potential secondary gains also considered important. Trees cut were utilized for firewood. The crooked and diseased trees were removed, improving the general appearance of

the woodland. Food and habitat for wildlife was improved in the process. I realize that it will be many years before this grove will be ready to harvest for sawlogs even though there are many individual trees throughout the acreage presently of sawlog size. Consequently, I may not live to personally benefit from this future harvest. However, if one is committed to the idea that it is a sound use of land to leave resources to future generations, then it is not difficult to include some long range goals in the management plan.

Under normal circumstances, a body of water usually enhances the value of any property. A small stream running through the land, fed by two springs, made a marshy area not usable for a garden or anything else. This led to the building of a small farm pond. The ASCS provided technical and financial assistance and it was built to the standards of the agency. The pond, which has pines and autumn olive bushes growing on the edge, has been stocked with largemouth bass and bluegill for fishing. Care is taken to manage the pond so proper balance is maintained with regard to the ratio of bass to bluegill. Other uses of the pond include swimming, observation of wildlife, including miniature forms of pond life, skating, and a potential resource in the event of a fire. Farm animals are not permitted to come all the way down to the pond to drink because trampling may kill fish eggs. In extremely dry weather, water from the pond could be used for watering the garden and fruit trees.

Wood duck nesting boxes placed around the pond may attract these beautiful waterfowl.

At the time the pond was being built a small, open area not being utilized was prepared, seeded, and fenced for a steer. A small barn was built out of logs from the forest. The steer was not allowed to wander out of the fenced area so as to preserve the seedlings in the woods. For watering the steer, the fence was extended down near but not into the farm pond so water was carried a short distance to a watering trough. This pasture was later limed and fertilized.

Two plantings each of white pine and loblolly pine seedlings were made over a period of several years. The first plantation of white pine have been sheared for Christmas trees, with some to be retained for aesthetic purposes. Today, the first loblollies are 10 and 12 feet high and growing vigorously. A second planting of loblolly pine has been made to replace trees lost during a recent ice storm. These trees will be helpful in preventing soil erosion on slopes and will be grown for eventual saw logs as a long range goal.

I firmly believe that it is important for the preservation of wildlife and ecological balance to leave an occasional den tree in the forest even though the landowner may be tempted to cut it down. The den tree and its role in the forest are symbolic of other things in the natural environment which have value that cannot be measured in dollars and cents. I recall a forestry and wildlife seminar for private landowners, at which a forester pointed out a large tree which had a hole in it. The forester stated that the tree had little mercantile value but had considerable worth as a den tree for wildlife. This opened my eyes to a new appreciation for den trees on my own tract of land. Wildlife has value to some merely to look at and appreciate; to others, wildlife has a more concrete value in terms of food or hunting opportunity.

In thinning the forest, hardwood is cut to be burned in an efficient wood-burning stove. If our home had had only one fireplace, it would have necessitated making a very difficult decision; namely, whether or not to install a woodstove. The family has a special fondness for an open fire on a cold winter's night, but an awareness that in an open fireplace most of the heat escapes through the chimney. Fortunately, with two fireplaces, one was left to be operated in the conventional way as an open fireplace with a tube unit placed into the fire area to increase efficiency. More than once while cutting firewood on a cool autumn day, I thought of the words of Thoreau who wrote that his woodcutting warmed him twice; once in the cutting and again as he sat and enjoyed the warmth of the burning wood. A wood fire is appreciated even more when the wood comes from one's own land.

While the entire 35 acres of woodland is considered to some extent to be a natural habitat for birds and animals, a small, special area specifically prepared to attract wildlife was planned. The wildlife habitat came into being out of a desire to draw wildlife in the most natural way feasible within the setting. The ASCS representative laid out the boundaries near a small stream. Bicolored lespedeza and autumn olive bushes were planted near the pond and stream and are growing well. The autumn olive bear red berries in late summer which are much loved by the wildlife. Bird populations have increased since planting the habitat.

A mixed hardwood and pine forest has a special beauty after the deciduous trees have dropped their leaves. Shelley, in his "Ode to the West Wind," wrote of the forest as the lyre of the wind. Anyone who has ever stood beneath the trees and listened to the wind in the pines knows what an exhilarating experience this can be.

A system of roads and trails was built through the forest for several reasons. Accesibility to firewood was deemed important, since wood was now the primary source of energy for home heating. In addition, protection against fire was a prime concern. A fire trail would make it possible to get to a fire before it gets out of control and could also serve as a fire break. As a general practice, motorized vehicles such as motorcycles and snowmobiles are not used on the trails because of the desire to attract wildlife.

These ideas are shared with the hope that we as small woodland owners will use our land wisely, not only for ourselves, but for our children. And in doing so we will have the satisfaction of planning for future generations. One thing seems certain: the management of small, privately-owned woodlands will become more and more important for years to come as the country's need for wood products grows. □

Point of Honor

Any time two or more dogs are to be hunted together, backing is essential — does your dog back?

by Charles D. Bays

If an upcoming hunt includes an unfamiliar dog, ask straight out — does your dog back? If the answer is no, I strongly advise you to cancel the hunt, hunt separate cover, or alternately hunt the dogs. But in a nice way, let your buddy know if he expects to hunt his dog with yours, in the same field at the same time, he's going to have to teach his dog some manners.

Backing is one dog honoring another dog's point. It's *sight* pointing the lead dog, not *scent* pointing birds. All points —even apparent false points — should be honored. But don't hunt your dog with chronic falsepointers; he'll learn to distrust the lead dog and become less staunch or unwilling to back.

Any time two or more dogs are to be hunted together, backing is essential. Even a veteran dog will become unglued on point and will usually start to bust birds if an unmannerly dog is allowed to steal his point, or worse yet, bust birds ahead of him. While I've never witnessed it, I heard of one account of the unruly dog's owner getting busted — on the nose.

Teaching a dog to back is not an arduous task, if proper training procedures are followed. Let's begin with the puppy. When is the best time and what is the best method to first start teaching the pup to back?

Training should begin as soon as the pup is weaned, and that's at seven weeks of age. Begin with the bird wing.

This involves tying a bird wing (or piece of cloth) to a short piece of string attached to a fishing pole. Fly the wing, let the puppy give chase, then light it on the ground a short distance in front of him. When the pup sight points give the command "whoa." Many pups, by the time they are eight to ten weeks old, will point staunchly.

Next, work him with another dog, allowing both to simultaneously point the wing. After a few sessions of working the dogs together, it may not be necessary for the second dog to see the wing in order to point. Instead, he sight points the other dog, or in essence, backs.

Of course, this is only preliminary training for the pup and is no guarantee he will honor in the field; most dogs will require additional training. But it is a sound training method that is well worth the time invested.

The conventional and most effective method of teaching a dog to back is accomplished afield on live birds. Obviously, before it's possible to get a dog to back, one must first get a point. If your hunting is like some of mine, this could take all day. It also makes for a strained hunt, knowing you must get to the dog being taught to back, possibly restraining him, *before* he busts in on the pointing dog.

Commercially raised or "tame" quail can resolve both problems. Pen-raised quail can usually be obtained from professional trainers or shooting preserves and cost about five dollars a pair. Considering that the dogs can be worked in a controlled situation and the amount of training time saved, this is really a bargain.

Plant a bird in sufficient cover and allow the old dog to point. Bring the dog learning to honor up on a lead to within a few feet of the pointing dog. Gently whoa him, he may back. If so, release the pressure on the check cord, but keep a firm grip. If he fails to back or appears confused, either of two methods may be employed.

You can restrain the dog, have your buddy kick the bird up, and let him see what the lead dog is pointing, or, you can allow him to move in close enough to both *smell* the bird and at the same time see the lead dog. Here, some trainers will pick the dog up and set him behind the pointing dog before flushing or shooting the bird. Most of the time I do not, especially when working a young dog for the first time.

If the young dog is still confused you may allow him an opportunity to point the bird after removing the old dog from the field. Work him on the check cord and restrain him if necessary. But don't overdo. Quit for the day and let the new experience sink in. Then work him again in a day or two. Usually after a couple of these sessions a young dog will soon learn to back. Working the dog in a controlled situation on a check cord saves valuable hunting time — and a lot of frustration.

I would like to make a suggestion: After a young dog has demonstrated to your satisfaction that he has a good working knowledge of back and will honor a point without hesitation, hunt him alone for a while. This will go a long way toward insuring he will learn to find his own birds, and not by following or tracking the other dogs afield.

Teaching a dog to back is more easily accomplished when working with a young receptive dog, but, for one reason or another, there are a few otherwise useful dogs that either have not been taught to back or have not been made to do so. No dog really *likes* to back, no more than one hunter would like to stand ten feet behind his buddy on a covey rise; and to teach an older, more independent dog to back sometimes requires stiff measures.

Depending upon the individual dog, and what he has been taught and allowed to do, the degree of the infraction will vary. A jealous dog may momentarily back, only to make a wide half circle and come in from the side to steal the lead dog's point. Others will creep until they are either beside or ahead of the pointing dog. Some will simply plow headlong past the lead dog, and into the birds. When the latter happens, the trainer is usually tempted to use a two by four as a training aid, but a check cord is better.

Let the dog drag the cord and as soon as you see the other dogs making bird or go on point, make every effort to get hold of it. When the dog lunges forward give it a jerk, and as the commercial goes, do it with gusto, his head ending up where his tail once was. Then stand him up and whoa him. Stay with the dog, and regardless of what it takes, be sure he stays behind the lead dog. After you have him under control have your friend shoot the birds.

Sometimes even this fails to work. What then? I know of only one alternative: whoa break the dog so thoroughly he will immediately and without question assume a staunch pointing position on voice command. Space prohibits a detailed account of how this is achieved, and to completely whoa break an older dog used to having his own way is, in itself, no easy task.

The methods outlined in the last few paragraphs are meant to deal mainly with older, more independent dogs. Most dogs that will point can be fairly easily taught to back, and in like manner, a backing dog will usually point. Which one to teach first varies with different trainers.

One thing that most trainers and bird hunters will agree upon is that nothing is more exciting or beautiful than a staunch point followed by a solid back. But a word of caution: *a brace or a half dozen dogs are usually no better than the worst one afield.* And nothing is more damaging than the dog that busts in ahead of a dog on point. This is more than discourteous — it's the cardinal sin in bird hunting. □

Outdoor Notebook

Some Great Fishing

Fishing is good in Virginia, but it must be better in Colorado. One angler out of Rancho de Taos, New Mexico and a few friends caught 380 fish on a four-day excursion on the Conejos River near the Colorado-New Mexico border.

When stopped at a routine road check, local game wardens allowed the party 154 fish as a legal catch and charged the angler with 226 fish over the limit. In what is believed to be the largest fishing fine ever imposed in Colorado, Judge Susan Broyles of Conejos County fined the fisherman $2,285 for exceeding the limit. □

Deer Hunters Set Harvest Record

The weather on opening day of the 1980 deer hunting season was miserable in most of Virginia and just plain impossible in many western parts of the state. Hunters, however, resisted the temptation to go home and sit by the fire: this season, they harvested a record number of deer. At presstime, still-incomplete figures showed that hunters took slightly more than 75,000 deer in the 1980 season.

Weather played an interesting role in the harvest figures. The heavy snow on the last day of the 1979 season probably accounted for a larger-than-normal carry-over of huntable animals. And if the weather had cooperated this season, the harvest figures might have been even higher. West of the Blue Ridge, about five days of the season were effectively lost to very bad weather, and the harvest figures for that area are down about five percent as a result.

Each year, the Virginia Game Commission's game biologists estimate, the harvest before the season begins for scientific purposes, as well as for a friendly contest among the biologists, a VPI computer, and Commission statistician Jack Gwynn. This year, the biologists estimated the harvest at 71,715, the computer projected a kill of 72,528 and Jack Gwynn, obviously using a crystal ball, said 75,258.

Good guessing, Jack! □

Francis N. Satterlee

Several members of the *Virginia Wildlife* staff, (left to right) Mel White, Harry Gillam, Sarah Bartenstein and Robin Schroeder, celebrated the 61st birthday of the magazine in January with a birthday cake. Ms. Bartenstein holds a copy of the first issue of the magazine, originally called *Virginia Conservationist*, while Ms. Schroeder holds the January 1981 issue of *Virginia Wildlife*. □

Of Towers And Mountains

The lonely tower stands as a symbol of watchfulness and the never-ending fight against those forces that degrade our forest resources, mainly forest fires. These tall gray fortresses are scattered throughout the state and have been used by the Virginia Division of Forestry for approximately 40 years.

When spring and fall leave the trees bare, the leaves dry and the wind blowing, the solitary tower operator scans the horizon for gray columns of smoke. When he sees smoke and finds its location, the closest Forest Warden is contacted via radio and the fire checked out.

It's sad to see many of these towers removed due to vandalism and the increase in aerial detection of fires. The tower at Hayter's Knob, however, will probably never be removed.

The construction of this spire was not unique: like others, it was carried up the mountain and built by the Civilian Conservation Corps. What makes the Hayter's Knob tower so special are its location and use.

High atop Clinch Mountain on the Washington-Russell county line, the tower stands in a wilderness area with Clinch Mountain Wildlife Area on one side and Hidden Valley Area on the other.

Clinch Mountain is composed of a pure white sandstone, especially prevalent in the tower area. This material has cracked and weathered, creating caves and caverns that meander along the top of the mountain. The sandstone caves support a fragile and distinctive environment. Acid-loving blueberries and small trees like mountain ash oak, sourwood, and birch grow on the tops of these boulders. Down in the caverns, ferns, mosses and rhododendron flourish. Bears, bobcats and other den animals often use these "hideouts."

Even though it's five miles off Rt. 80, the tower is used often for tours and nature walks. Boy Scouts, 4-H Clubs and other groups have been enlightened and refreshed as representatives of the Division of Forestry point out plants, trees and other items of interest. Several timber types, examples of incorrect cutting techniques, and fire scars are also explained. The use of the tower and the climb up the 80-foot structure are always fun.

The caves are also toured, but *always with a group* since it's easy to get turned around in the network of caverns.

The lonely fire tower atop Clinch Mountain has a future and a purpose; how about a visit?—*Dennis Anderson* □

Colonel's Commentary

by Col. John McLaughlin

"Posted," "Keep Out," "No Trespassing," and "Prohibited Land" are examples of some of the messages that face the hunter when he leaves the confines of his home and points his dog-laden pick-up truck toward the woodlands. I might add that I would not be surprised if the farmer faced the same signs if, come spring, he took up the habit of picnicking on the front lawn of his November guests.

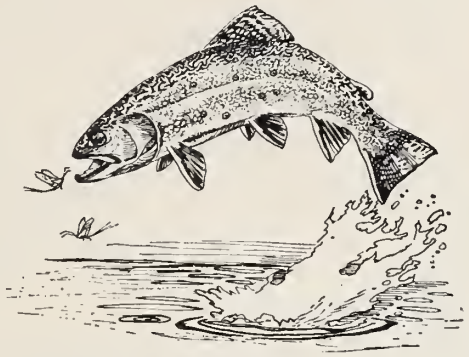
Some things should be remembered by us hunters when we see one of these signs: the land belongs to the landowner and he has the right to post it. He may not like hunters; that's his right. He may not like to harvest wildlife; that's his right. He may not appreciate litter; that's his right. He should be able to say who does what on his land; that's his right.

The law is plain about the consequences of crossing the boundary marked by a posted sign, and each year, many hunters know well how the stomach reacts to the brain's reception of the message from the anvil, hammer, and stirrups, "$25.00 and cost." The hunter has no right to proceed on posted land without written permission, or unposted land without oral permission.

But let's look at something that goes *beyond* rights: *consideration*.

The law does not state *how* land should be posted; it makes no distinction between land with signs placed every 50 feet and land with one sign at each of the "four corners of the earth." To put up one sign on the front of the farm and one at the rear is the landowner's *right*. But the landowner who does this lacks *consideration*. When a landowner is serious about posting his land, he should do it in a serious manner. By circumventing his farm with legible signs, placed at points where even the most nearsighted of us could tell that more than moss was exhibiting itself on the north side of the tree, the landowner shows consideration, and is due the same in return.

Perhaps few written documents have the short life span of posted signs, here today and gone tomorrow. Four nails tenaciously holding four triangle bits of torn paper securely to a tree seldom represent the work of a "converted" landowner. Someday, however, it might, if a middle ground is struck between the *right* of the owner and the respect of the hunter; you know, we might even arrive at consideration! □



Coming Next Month

Here are just a few of the good things you'll find in the April 1981 issue of *Virginia Wildlife*: Examine the **Wild Heart of Richmond,** the ten-year-old James River Park; Harold Skinner explains how **Wildlife Gardens** can provide an education for the observant gardener, in a new twist on the "more wildlife on your property" theme; Elizabeth Murray examines Venus' looking glass **In Nature's Garden;** and enjoy a variety of fishing articles as trout season gets underway. All this and more will be waiting for you next month in *Virginia Wildlife!* □

Enjoy big savings: subscribe to Virginia Wildlife!

The per-copy price of *Virginia Wildlife* is $1.00, but when you buy it "by the dozen," you save $7.00 a year! And if you buy the three-year subscription, you can save $23.50 — that's a 65% savings! Think of the convenience of having this beautiful color magazine delivered to your door every month. You can't afford *not* to subscribe to *Virginia Wildlife!* Mail the form below to *Virginia Wildlife*, P.O. Box 11104, Richmond, Virginia 23230, or give it to your game warden.

Yes, I want to save up to 65% over the newsstand price of *Virginia Wildlife!*

Send me □ one year for $5.00 □ three years for $12.50

This is a □ new subscription □ renewal □ gift subscription

Name_____

Address_____

City _____ State _____ Zip_____

Please allow six to eight weeks for delivery. Credit Warden No. _____

On the Waterfront

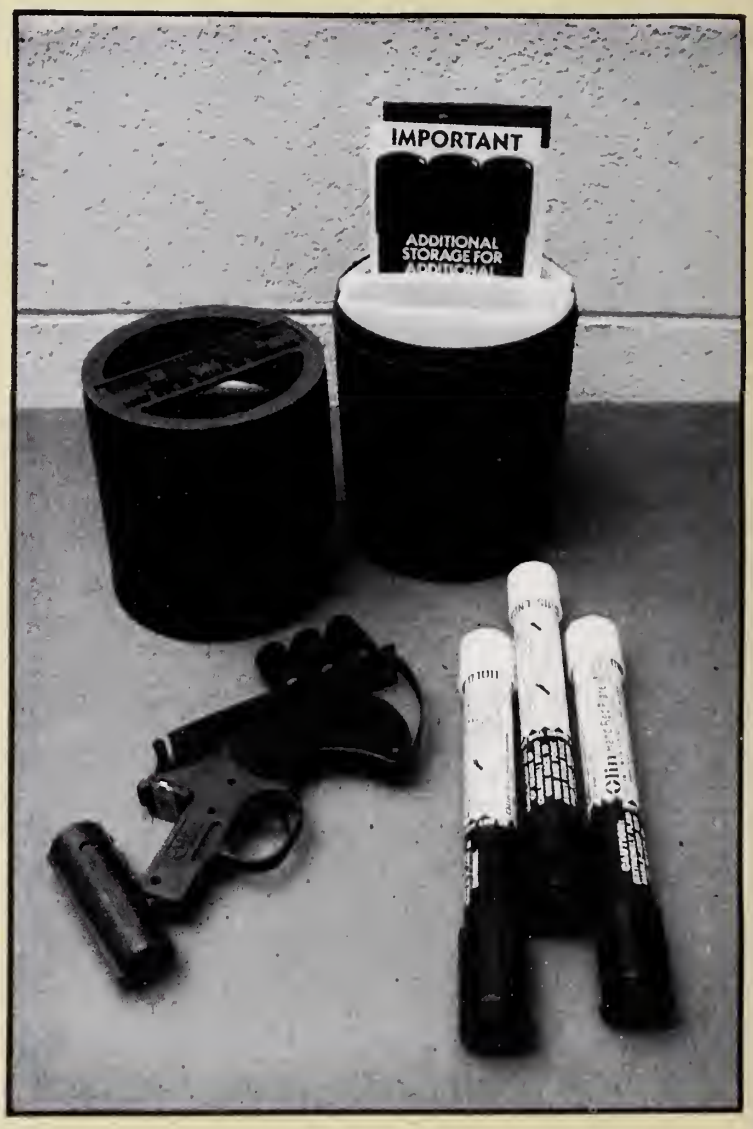
by Capt. James N. Kerrick

A Reminder

Effective January 1, 1981 all boats carrying up to six passengers for hire and all recreational boats 16 feet or greater in length shall be equipped with visual distress signalling devices at all times when operating on coastal waters. Additionally, boats less than 16 feet will be required to carry visual distress signals when operating on coastal waters at night.

This regulation applies to all coastal waters and those rivers two miles wide at the mouth and up to the first point the river narrows to less than two miles. Inquiries may be addressed to Fifth U.S. Coast Guard Headquarters, Portsmouth, Va. 23605, telephone 804/398-6202. □

Victory Over Vee Belts



You're putting across the pond on a sunny Sunday afternoon, and the alternator warning light comes on. You are mulling this over as the overheat light comes on too. The belt driving both the alternator and the water pump has failed, and you're out of power. Preventive maintenance can help keep your vee belts vroom-ing. Here's how:

A vee belt is a cheap, effective way to transmit power. When used as originally intended, it is strong, durable and trouble-free. The belt's main tensional strength is in its backbone, or outer edge. As it bends around the pulley, the vee part is slightly compressed. It puckers, gripping the grooves of the pulleys. A vee belt running around two clean, same-size pulleys, and getting a 180-degree, properly tensioned and loaded grip on each one, can run 100 years or maybe forever.

Then you decide to run an 8:1 alternator off your engine. Two different-size pulleys are used and, as the belt runs through the smaller pulley, the cheeks of the vee are compressed more than when the belt runs around the larger pulley. The belt wears unevenly, and it begins to slip on the large pulley. With two different-size pulleys it's not possible to have a 180-degree contact with both, and it gets worse when you add a third pulley. Even if all pulleys are the same size, the most contact you can get is 120 degrees each. So, the farther you depart from two same-size pulleys, the more trouble you can expect from your vee belt(s). What can you do to make vee belts work better, longer?

First, examine the pulleys for rust or pitting. Wear from damaged pulleys will look, on the cheeks of the belt, much like wear from a slipping belt, but there is some difference. If the belt is slipping you'll see a shiny, hard appearance of the belt face, from overheating. If the *pulley* is wearing the belt, the belt will have a dull, worn look. If the pulleys are at fault, repair or replace them.

Third, make sure the belt is not overloaded. Usually your clue here is heavy deposits of dust around the pulleys. You may be able to reduce the load by adding double sheave pulleys and two belts. If you don't have room to do this, expect rapid wear and carry plenty of spare belts.

Fourth, make sure the belt is not rigged too tightly or too loosely. Too loose a belt will slip, and will wear hard and shiny from friction heat. Too tight a belt will start breaking laterally. Often a belt with this type of damge will hold, if you don't overheat it and as long as it stays flexible. When you are inspecting a belt, turn it enough so you won't miss this type of distress. It's almost impossible to see it when the engine is running.

Try to develop a "feel" for adjusting belts. Press your thumb against the belt when it's cold. Usually your engine manual will tell you how much deflection there should be. Another way to test is to try to turn the pulley on the alternator when the engine is cold. The belt should slip. With the engine warm, turning the pulley on the alternator by hand should move the engine (but not necessarily through its compression stroke.)

Always carry at least one spare for each vee belt you use aboard your boat (and the tow car, if you trailer your boat). If the belt is an odd size and the cruise a long one, carry even more. Because there's nothing better in boating than a good belt at the end of a tough day.—*Gordon Groene* □

In Nature's Garden

Strawberries

Lucile Walton

by Elizabeth Murray

I occasionally receive calls from the Poison Control Center in Charlottesville, asking for information about a wild plant which someone, often a child, has eaten. I am always glad to help if I can, and equally ready to be honest if I cannot, which sometimes happens. When I first started, each situation seemed unique, but over the years I have discovered that some questions will recur time after time with astonishing regularity. One of the commonest queries in the spring, and luckily one of the easiest to answer, is whether any harm is done to a person who eats snake strawberries, mistaking them for wild ones.

It is a little difficult to see why this should be such a common mistake. Snake strawberries, also known as mock, or Indian strawberries, are neither distasteful nor poisonous, so the reply to the Poison Control center can be quickly and reassuringly given. But by no stretch of the imagination (or taste buds!) can they be considered palatable, whereas real wild strawberries are one of the tastiest fruits in the whole world, wild or cultivated.

Both plants are in the rose family, Rosaceae, but belong to different genera. Both plants have toothed, three-part leaves, and from the leaves alone it is perhaps hard to tell them apart. However, the snake strawberry, *Duchesnea indica*, has yellow flowers, while those of the true wild strawberry, *Fragaria virginiana*, are white. Both flowers have five free petals, as is characteristic of the rose family, but in *Fragaria* the petals are slightly overlapping so that the small leafy bracts underneath are not very conspicuous, whereas in *Duchesnea* there are five large-toothed bracts clearly visible between the petals when the flower is viewed from the upper side. Both species have large red fruits formed by enlarged fleshy receptacles with dry achenes scattered over and partly embedded in the surface. But the flesh of *Duchesnea* is pulpy and tasteless while that of *Fragaria* is juicy and delicious.

It is not quite fair that *Duchesnea* should be commoner than *Fragaria*. Snake strawberries are very prevalent invaders of lawns and other grassy places. Their ecological demands are relatively unspecific and modest and they do well in waste ground and a variety of other habitats, from Connecticut and New York south to Florida and west to Oklahoma and Iowa. *Fragaria* is found much more typically in large patches in fields, although it also grows in open woods and along the borders of denser woods. It extends further north than *Duchesnea* although not quite as far south, and there are varieties in the west which differ only slightly from the one we have here.

Snake strawberries have an extremely long blooming season. Both flowers and fruit can be found on the plants from very early in the spring practically up to the first frost of the fall. On the other hand, *Fragaria* has rather a short season. Flowers bloom in late March and April and the fruit can be gathered in May and early June. Patches of wild strawberries differ greatly in the size and amount of their fruit, but a good patch which produces plentiful, large fruit will tend to do so year after year. We have one patch in the pasture which is consistently excellent, and we return there early every summer for the crop. The berries make wonderful preserves if you can pick enough — if you only get a few, save them to eat with cream or ice cream, or just raw as they are. They can be frozen whole without any sugar to be brought out as "February treats" when they are *really* appreciated!

The one further insult which *Duchesnea indica* could add to its list of detractions, which already contains the lack of edibility, the excessively long flowering season and the rapid proliferation in lawns, is the fact that it is an introduced species, being naturalized from Asia, whereas *Fragaria virginiana*, our own tasty wild strawberry, is indeed our own, being a native North American species. □

KNUTH

by Carl "Spike" Knuth

The Song Sparrow

Many birds have been looked upon as the "harbingers of spring." In fact, many species could qualify as the official message-bearers in heralding the arrival of the season. Who should have top billing depends on where you might be: In the marshes of the northern United States, the Canada goose, yellowlegs or red-winged blackbirds are the early birds. Meadowlarks, killdeers and bluebirds make early appearances in fields and pastures, while the robin's song is the early bearer of spring's tidings in residential areas. All have one thing in common: each has a fairly simple, easily recognizable, distinctive call or song.

There is at least one other bird that could easily qualify as a messenger of spring. Its a rather plain little bird, always around, but seldom noticed. It does, however, have a beautiful, distinctive call, although it is a bit more complicated than the songs of the others. Its call has been described as a prayer, because the little bird will get on an elevated perch and sing skyward. So eloquent is its call to some that the bird has been nicknamed "silver tongue." So appreciated is the little bird, that it is also known as "everybody's darling."

The song sparrow is indeed well-named. It is very common in Virginia and all of North America, for that matter. Some of its other local names include ground sparrow, marsh sparrow, bush sparrow and swamp finch, all of which reflect the bird's favored habitat. Song sparrows like bushy cover, generally close to water — a marsh, lake shore, wooded pond, swamp or meandering creek. It also favors open lands such as old farm sites with remnants of an orchard, ornamental shrubs and croplands edged with thick hedgerows.

The song sparrow is five and one-half to six and one-half inches in length. It is basically brownish above with black markings. Its head is striped reddish-brown with a light gray crown down the middle. Its breast is whitish with dark brown or black streaks. A dark spot in the middle of a streaked breast is a good field mark. There are numerous geographical color variations. Some are rusty brown and very lightly marked, while others are dark sooty brown with dark, heavy markings. It has short, rounded wings with a long, rounded tail pumped up and down and sideways while in flight, a very characteristic trait.

The song sparrow spends much of its time on the ground or in low shrubs where it feeds mainly on seeds of all kinds and occasionally insects. The little hen nests on the ground in matted clumps of old grass and weeds or later, when foliage develops, she will seek out low shrubs of her choice. The nest is cup-shaped and built of grasses, leaves and stems, lined with fur or hair. A normal clutch is four eggs.

The song sparrow is common over most of the North American continent from the Arctic Circle to the tropics. It breeds from southern Alaska, south to southern California and east to Quebec, south through the Appalachians. It winters over the whole remainder of the southern United States, south through most of Mexico.

Occasionally, on a sunny day, little "Silver Tongue" will find himself a perch in the sun and practice his song of spring which varies in pattern and pitch. Or is it that he is just as impatient as we are for spring? □

National Wildlife Week
March 15-21, 1981
We care about
OCEANS
Join and Support the National Wildlife Federation and State Affiliates